

The Legend of Camel Bells

ACE technology and a Thea Award

骆驼传奇; ACE技术与Thea

IAAPA 2018

A look at the highlights, news and trends from the 2018 IAAPA Expo

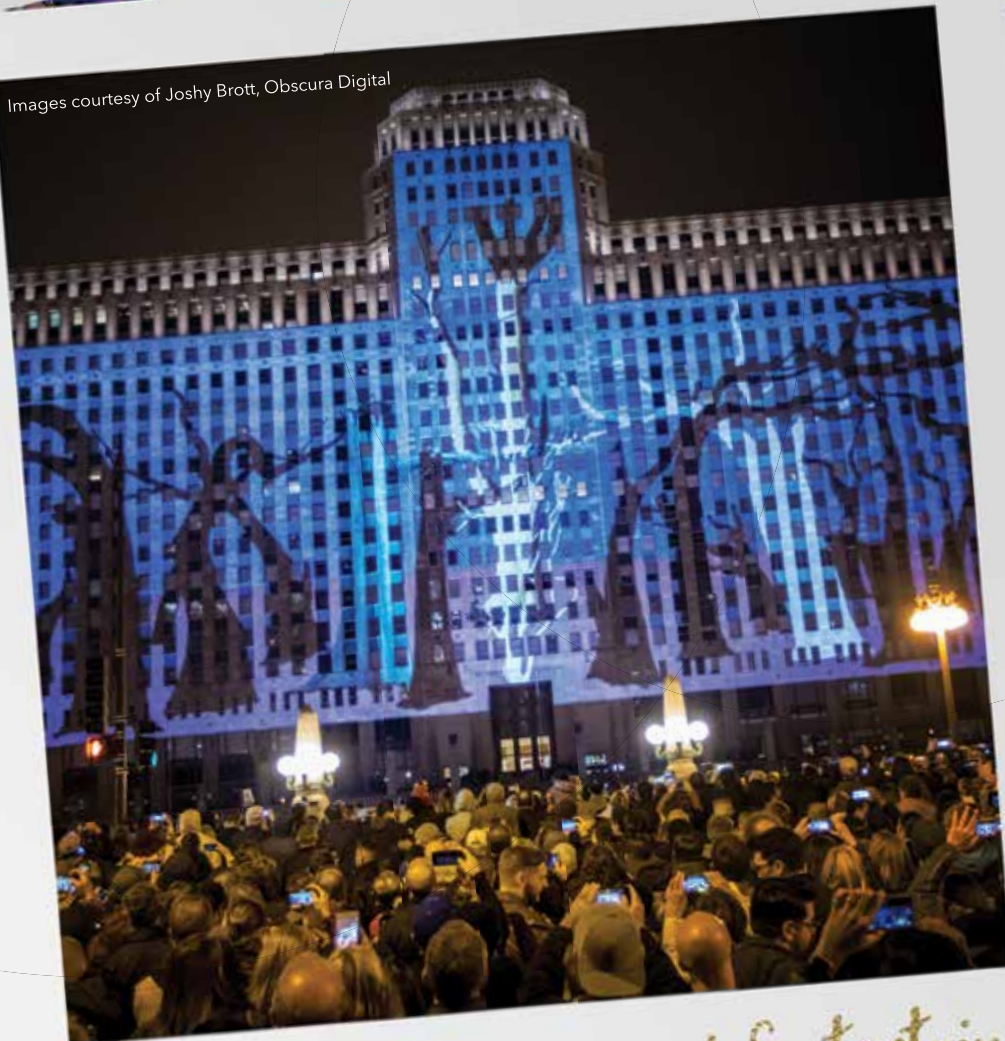
Cartoon Network

New IP for the LBE marketplace

The Zoovolution

Zoos and aquariums rely on public support

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**Niche is nice, but
broader is better**

**Martin Palicki,
IPM publisher**



When VR really works

**Judith Rubin,
IPM editor**



Compared to the film and TV industry that predates it, themed entertainment has traditionally been small, compact and laser-focused on a few big theme park clients.

But visiting Orlando's IAAPA Expo last month made it clear that the industry is growing – evidenced not only by the expanded and still sold out exhibit floor but also by the reach of the market. Large theme parks are not the only customers seeking themed entertainment's expertise.

It's a story we at InPark have been telling for some time now. Technologies advance and innovations drive down cost. What was once only available for big-budget players becomes accessible to many. Six Flags' JUSTICE LEAGUE™ dark rides provide a prime example.

It's not only smaller parks that are turning to themed entertainment. Around the world, FECs are finding the value of story-based experiences. Major brands like Hasbro and Cartoon Network are turning to our people to help them create destinations for their IP. Retailers are using themed entertainment to lure consumers away from online shopping.

As an industry, themed entertainment has been discovered and opportunities are now popping up in new places. The smartest folks will be adapting their products and services to meet the needs of the industry's expanding customer base. As your industry publication, we will be here to help chart the course and continue to write about themed entertainment's success stories.

Are we missing the point about VR? It's easy to get caught up in the noise around this presentation technology. Virtual Reality carries a lot of baggage between the jaded skeptics (including yours truly) who saw it come and go in the 1990s, the hype, and the headset wars. But at the 2018 IAAPA Expo in Orlando, there were some truly effective presentations, even transcendent.

As a media delivery tool, the VR headset needs to be so good that it makes the headset go away, freeing the end user to dive into the experience. At IAAPA Orlando, we saw this starting to happen. Some exhibitor setups were successful to the point that the headset became something like a portal to another world.

VR is also being used as a pre-visualization tool, and some IAAPA exhibitors used VR previz to demonstrate and market immersive theater installations and concepts. They succeeded in ways they had not anticipated. Customers wanted to buy the previz experience itself; it was so good, it made the theater go away! Another wakeup. The buyers were looking for unique, affordable, media-based experiences – the promise of VR - and they knew when they'd found them, even if the exhibitors themselves didn't quite know what they had.

These breakthroughs serve as a reminder that great experiences are written on technology that has been made transparent.



Joe Kleiman is News Editor for the InPark website. He has 25+ years management experience: in tourism, museums and attractions, in the giant screen industries and as a zookeeper.

COVER: The Legend of Camel Bells will receive a Thea Award this year. The show is a spectacular blend of live actors, rotating sets, and dazzling special effects.

Full story p. 10

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The zoovolution

Bolstering public opinion in critical times

By Joe Kleiman

InPark's zoo specialist Joe Kleiman reports from the session "Tales from the Field: How Zoos and Aquariums can Bolster Public Opinion," which took place November 12, 2018 during the IAAPA Attractions Expo in Orlando, Florida.

In 2016, the travel booking website TripAdvisor made the decision to drop animal attractions that it determined did not meet its standards of animal welfare. This was the latest impact to an industry already affected by negative fallout stimulated by the film "Blackfish," and subsequent legislation in California [see "SeaWorld Defends Itself Against California Bill to Ban Killer Whales in Parks": <http://www.inparkmagazine.com/ipm-exclusive-seaworld-defends-itself-against-california-bill-to-ban-killer-whales-in-parks/>].

Ted Molter, Chief Marketing Officer of San Diego Zoo Global reported that concerned zoos and aquariums approached IAAPA on how to protect their brand, resulting in the development of an IAAPA toolkit for the sector by the IAAPA Animals in Human Care Committee, which is comprised of six industry leaders in the global zoological attractions market.

One of the priorities laid out by the committee is that IAAPA members that showcase animals should be advocating on behalf of animal welfare – not just wildlife, but animals in human care as well. At the same time, they should distance themselves from facilities not meeting accreditation standards (Molter pointed out that a simple pathway toward the process is to join one of the many associations that accredit facilities). While maintaining that distance, it's important not to ignore non-accredited facilities, as their animals may need assistance or housing down the road. The committee also recommended listening to others with opposing views.

According to Molter, the first thing a facility should do is to focus on the care of its own animals. Once that's achieved, they can then focus on caring for animals in the wild. This serves a twofold purpose, as advocating care for wild animals can be seen as a deflection if the public

believes poor animal welfare standards exist within one's own facility, and it allows for lessons learned within the facility to be applied to the wild population.

Sharing stories, making the emotional bond

Mike Chamberlain, Guest Experience Innovation Director at the Monterey Bay Aquarium, discussed how the aquarium successfully integrated stories and staff into its interpretive design. A study of aquarium visitors discovered that the majority of its visitors don't read labels, and those that do spend less than 10 seconds reading. On premises, the aquarium discovered that only 9% of its visitors read labels, and usually for only 3-5 seconds each.

The aquarium decided to try new ways to reach visitors would be through redefining who's giving the message. For example, whenever possible the aquarium uses its animal care staff – highlighting the human bond with the aquarium's collection, as well as showcasing the care that goes into the facility's animal husbandry.

All of the aquarium staff are trained to be guides – and are educated about the collection by the animal care staff, creating an extension of the messaging process. Chamberlain says, "An engaged staff is better for the guests. It also improves the internal culture."

The aquarium also uses rescued animals - live and in short video presentations - as a link to conservation efforts. "Luna: A Sea Otter's Story" shows the rescue of a California sea otter, her care under an innovative program at the aquarium where its resident otters serve as foster parents, teaching the orphans important survival skills and her eventual return to the wild. In addition to showcasing the aquarium's rescue operations, the film also tells of the



Mike Chamberlain, Monterey Bay Aquarium



Ted Molter, San Diego Zoo All photos by Joe Kleiman

threats facing wild sea otters. Makana, a Laysan albatross, appears daily in a public program. Her story is not only one of her natural history, but a tale of the threats that plastics pose to wildlife in the ocean, and what aquarium visitors can do to make a difference.

Death and birth

Thane Maynard, director of the Cincinnati Zoo, shared his experiences dealing with the tragic death of the gorilla Harambe in 2016. A three-year-old had climbed over the barrier and into the pit of the gorilla exhibit. Harambe climbed down and grabbed the boy. The zoo had to make a split-second decision, deciding to shoot and kill the 17-year-old gorilla out of concern that, if agitated, he could harm the child.

As Maynard puts it, "This set forth a firestorm on the zoo."

Working with his management team, Maynard put two processes immediately into motion. First, he went directly in front of the national press. "I shared the truth," he says, "This was not something we wanted to put a spin on." He also made internal communications between the zoo, its staff, its donors, and membership a priority.

"This was all about transparency and empathy," he said. "There was no orchestrated script. There was no finger pointing."

Maynard's takeaway from the experience is multifold: "You need to first and foremost identify a spokesperson, and that person needs to stay positive, but not in the sunshine. Look to others for help, that's why AZA and IAAPA exist. And double down on conservation. In the end, you want to rebuild trust."



Thane Maynard, Cincinnati Zoo

Less than eight months after Harambe's death, Fiona, a premature hippo was born. She was not expected to survive. The animal care staff vowed to keep her alive and as she grew, she became a social media sensation and pride of the city. As juvenile hippos at the San Diego and San Antonio Zoos began to court her, what started as publicity jokes became an effort between the three zoos to teach

the public about Species Survival Plans and how breeding matches are made at zoos.

But even Fiona's success came with detractors. "People against zoos will always come up with something," says Maynard, "PETA started complaining about the quality of her water. This water comes from the same river the water to my house comes from. But have you ever seen the water in the wild where hippos live? It's full of parasites. Where's PETA in East Africa?"

The Five Freedoms

Nadine Lamberski, Chief Animal Health Officer at San Diego Zoo Global, discussed the importance of the Five Freedoms and their applications to zoos.

The Five Freedoms of Animal Welfare were formalized in 1979 by the UK Farm Animal Welfare Council and have become the gold standard for animal husbandry. They are:

1. Freedom from hunger or thirst
2. Freedom from discomfort
3. Freedom from pain, injury or disease
4. Freedom to express normal behavior
5. Freedom from fear and distress

InPark reports on animal attractions

InPark regularly covers zoos, aquariums and animal attractions from the standpoint of design and operations and the issues facing the industry. Here are some top, recent articles:

2018

Gateway to the ocean – new aquarium at St. Louis Union Station, by Judith Rubin (inparkmagazine.com/gateway-to-the-ocean/)

2017

Rescue efforts underway at downtown aquarium and Texas Zoo, by Joe Kleiman (inparkmagazine.com/texas-zoo-aquarium-rescue-efforts/)

Jeremy Railton: A Designer's Notebook, by Jeremy Railton & Richard Wechsler (inparkmagazine.com/jeremy-railton-a-designers-notebook/)

2016

SeaWorld: Making Mako, by Martin Palicki (InPark issue #63, inparkmagazine.com/making-mako/)

The softer side of SeaWorld Orlando, by Martin Palicki (InPark issue #64, inparkmagazine.com/softersideofmako/)

National Aquarium's relocation of dolphins, by Joe Kleiman (InPark issue #64, inparkmagazine.com/national-aquarium-expansion-greatest-scale/)

What's AV got to do with animal attractions? by Joe Kleiman (InPark issue #64, inparkmagazine.com/whats-av-got-to-do-with-animal-attractions/)

Lamberski pointed out that in order to provide freedom from hunger or thirst, it's important to understand the traits of the species, as no two are alike. Seasonal, temporal, and spatial needs must be taken into account. Monitoring of animals involves both their physical and cognitive health.

Freedom from discomfort is based on an animal's ability to self-maintain. To address this, it's important to look at the whole animal. An animal that has some semblance of control over its environment will be happier, and this leads to more play behavior.

In order to address injury and disease, zoos are focusing more and more on integrating technology from human medicine. This has resulted in more animals with optimal health conditions and the early diagnosis and treatment of disease.

Behaviors are an indicator of welfare. Proper welfare results in more interaction with the environment. Two key tools utilized in promoting natural behavior are choice and control – giving the animal the choice between a variety of options. Lamberski says, “The more choices an animal has, the more it can predict outcomes, and this allows the animal to control its environment.”



Nadine Lamberski, San Diego Zoo Global

Lamberski points out that what may work for one individual may not necessarily work for another, but that, regardless of the environment, animals are constantly interacting. “It’s important that the animals are the ones making the decisions,” she says, “This way they have control.” • • •

2015

Bringing animals to light, by Patrick Gallegos (InPark issue #59, inparkmagazine.com/bringing-animals-to-light-issue-59/)

Good design habitats: Designing to celebrate and protect animals, by Jeremy Railton (InPark issue #59, inparkmagazine.com/good-design-habitats-issue-59/)

Letting animals swim, soak and splash, by Judith Rubin (InPark issue #59, inparkmagazine.com/hot-in-cleveland-issue-59/)

SeaWorld San Antonio evolves and expands, by Joe Kleiman (InPark issue #59, inparkmagazine.com/the-road-to-blue-world-issue-59/)

2014/2013

SeaWorld defends itself against California bill to ban killer whales in parks, by Joe Kleiman (inparkmagazine.com/ipm-exclusive-seaworld-defends-itself-against-california-bill-to-ban-killer-whales-in-parks/)

Designing for bears, dogs, lemurs, humans, and other living things, by Judith Rubin (InPark issue #54, inparkmagazine.com/designinganimals/)

“A Tough Year”: Zoos & Aquariums address conservation, experience design and reframing the debate, by Judith Rubin (InPark issue #54, inparkmagazine.com/a-tough-year-zoos-aquariums-address-conservation-experience-design-and-reframing-the-debate/)

The other side of “Blackfish,” by Joe Kleiman (inparkmagazine.com/editorial-before-you-jump-on-the-seaworld-bashing-bandwagon-read-this/)

LEGENDS, CAMELS & ACE



ACE provides audiovisual design to “The Legend of Camel Bells,” named to receive prestigious TEA Thea Award

by Judith Rubin

On Nov 13, 2018, ACE [Advanced Communication Equipment (Int'l) Co. Ltd.] congratulated its client, Huaxia Cultural Tourism, following the announcement that Huaxia had been named to receive a TEA Thea Award for the show “The Legend of Camel Bells,” for which ACE was Audiovisual Designer. ACE is a professional audio, video and lighting service provider, and a major supplier and system integrator in China, Hong Kong and Macau. ACE’s past projects include the 2010 Shanghai World Expo Opening & Closing Ceremonies, Tianjin Binhai Aircraft Carrier Theme Park, Wuhan Wanda Han Show, (2014) in addition to a major destination theme park that recently opened in China.

“Camel Bells” is a permanent show at the Huaxia Cultural Tourism resort in Xi’an in scenic Huaxia City, a 6-billion yuan enterprise already recognized with numerous leisure and tourism awards. The show is third in a series of “Legend” spectacles dramatizing Chinese history and

culture, staged around the country since 2010 by Shandong Huaxia Cultural Tourism Group, led by Xia Chunting. It dramatizes a story of the Silk Road with epic scale and spectacle, blending state-of-the-art theater technology, live performance and animal actors, and monumental, animated sets and effects and surround sound. The 3,000-seat, purpose built theater is designed with a revolving auditorium that delivers the audience to the sets that encircle it. ACE provided the innovative technical design, audio system design and controls that helped “Camel Bells” stand out from its “Legends” predecessors and bring the guest experience to a new level.



Mr. Bingo Tso
曹榮臻先生

Huaxia Cultural Tourism will be formally honored with the TEA Thea Award at the 25th annual TEA Thea Awards Gala on April 13, 2019 at Disneyland Resort in Anaheim,

驼铃传奇与香港ACE

ACE提供视听设计之《驼铃传奇》秀荣获TEA Thea年度“杰出成就奖”

作者：朱迪·思鲁宾

美国当地时间2018年11月13日，享有全球主题娱乐行业最高声望、最具权威、认可度最高的国际主题娱乐协会(TEA)在奥兰多举行的新闻发布会上宣布，华夏文旅集团旗下华夏文旅西安度假区会跑的实景演艺《驼铃传奇》秀荣获第25届TEA Thea主题娱乐协会年度“杰出成就奖”，是本年度中国唯一获此世界级殊荣的演艺项目！安恒利（国际）有限公司（简称ACE），作为《驼铃传奇》秀项目设计制作的重要参与单位，承接了音响系统的设计、集成，以及灯光视频系统的集成工作。安恒利是一家专业的音频，视频和照明服务提供商，也是中国，香港和澳门的主要供应商和系统集成商。香港ACE过去的项目包括2010年上海世博会开幕式和闭幕式，天津滨海航母主题公园，武汉万达汉秀（2014），以及最近在中国开设的主要景区主题公园。

《驼铃传奇》是西安华夏文化旅游度假区的永久性演出，位于风景秀丽的华夏文明古都西安，这个拥有60亿元资金的企业已经获得了众多的休闲和旅游奖项。该演出是2010年以来由夏春亭领导的山东华夏文化旅游集团在全国各地举办的《传奇》系列，戏剧化中国历史文化旅游的第三个演艺项目。它以叙述历史故事的方式和奇观，戏剧化演绎丝绸之路的故事，融合了最先进的舞台技术、现场表演、动物演员以及真实舞台布景、特效和环绕声音响。拥有3000个座位的专用剧院设计有旋转看台，可将观众带到环绕其周围的舞台场景中。香港ACE提供了创新的技术设计，音频系统设计和集成控制，帮助《驼铃传奇》从其《传奇》前辈中脱颖而出，将客户体验提升到一个新的水平。

华夏文化旅游将于2019年4月13日在加利福尼亚州阿纳海姆的迪斯尼乐园度假村举行的第25届年度TEA Thea颁奖晚会上获得TEA Thea奖。《驼铃传奇》将凭借杰出成就和壮观的现场表演而获奖。

California. “The Legend of Camel Bells” will be awarded for Outstanding Achievement - Live Show Spectacular.

While the award is officially given to the project owner, a requirement in accepting a TEA Thea Award is that the owner furnish a comprehensive credits list that TEA publishes in the Thea Awards Program and that becomes public record. Huaxia Cultural Tourism has already begun to acknowledge key members of the team for “Camel Bells,” such as ACE.

“We assembled the best talent from throughout China to produce “The Legend of Camel Bells,”” said Mr. Xia Chunting, Chief Director and Scriptwriter. “We would like to thank all of the key team members that made this production possible including Xia Zhenxiang (Producer), Jack Ahe (Executive Director & Choreography), Dong Gang (Composer), Han Chunqi (Costume Design), Bingo Tso [ACE] (Audiovisual Design), Li Guangcheng (Scenic Design), Meng Qin (Lighting Design), and the entire cast and crew.”

“We’re proud to have played a part in creating a truly grand project that will receive this high mark of excellence and achievement from our peers in the global attractions industry,” said Bingo Tso, senior vice president of ACE.

A leap forward in the Legends series

A published statement from the TEA Thea Awards Committee reveals that it was impressed by the theatrical and storytelling qualities of the show itself as well as its use of technology and its sheer scale: “This is China – where audiences love big spectacle, big stories – and where, due to sheer population numbers, themed entertainment development is and must be on a grand scale,” wrote the Committee. ““The Legend of Camel Bells” show represents the highest level of visual imagination and design in its execution. It wows the audience with stunning stage effects, massive props, extreme scenery, a waterfall, a huge cast and animal actors, all dramatically presented on the massive, oval-shaped stage and backed by a huge LED screen. The adventure is continuous as it engages the 3,000-person audience that’s mounted on a raked platform that not only rotates as the story action moves seamlessly from scene to scene, but also tracks back and forth from the action to provide a more intimate or larger stage area as required for the scene.”

Unique theater and audio system design

“Camel Bells” is the second Huaxia project for ACE. The relationship began in 2015, with ACE providing the lighting control system for the Minnan Legend show in Xiamen, Fujian province. For “Camel Bells,” ACE took

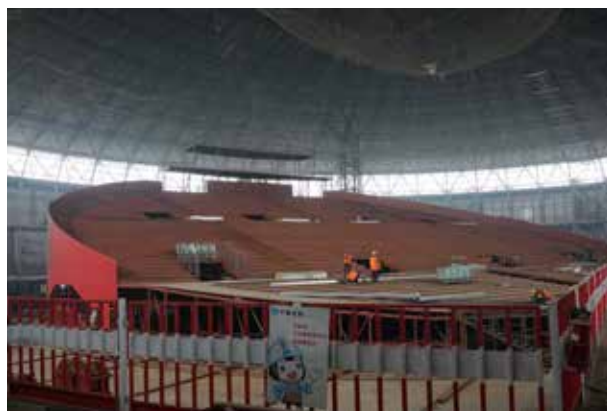
on a far larger scope. Bingo Tso said, “ACE provided the overall design for audio, and brought a multi-channel PA system design to the show, which created a 3D sound image to enhance the guest experience. At the same time, the system was integrated with the rotating auditorium, creating 3D sound images for the six different stage sides – and we’re pleased to report that we were able to deliver this optimized system at a reasonable cost.”

The unique multi-channel audio system resolved the acoustical challenge of a very live space. Bingo Tso of ACE designed the audio system featuring clusters of line array speakers as the main PA, supplemented by point source speakers, subwoofers and monitors, integrated into the scenic and building structures. A proprietary core processor gave the ability to up-mix a stereo source into multi-channel, facilitating 360-degree sound coverage with precisely placed effects and optimal acoustics.

ACE’s scope on the project also included technical support and system tuning for the audio system, and control system design for video and lighting. ACE was also



Mr. Tso (left) completes a site tour with workers during construction of “The Legend of Camel Bells”



In this construction photo, it’s easy to see the massive scale of the rotating theater and the enormous stage space surrounding it

虽然该奖项是正式授予项目所有者，但接受TEA Thea奖的要求是项目所有者提供TEA在Thea奖项计划中的荣誉名单并最终成为官方发布的信息。华夏文化旅游已经列出并鸣谢包括香港ACE在内的“驼铃传奇”的主要核心团队。

华夏文旅集团董事长，《驼铃传奇》总策划、总编剧、总导演夏春亭说：“《驼铃传奇》秀汇集来自中国各地的优秀人才，感谢所有使得这一作品成为可能的团队成员，包括：夏振翔（出品人），杰克阿合（执行总导演和编舞），董刚（作曲），韩春启（服装设计），曹荣臻（音响设计），李广成（舞美设计），蒙秦（灯光设计），以及全部演员和工作人员。

ACE高级副总裁曹荣臻先生表示：“ACE很荣幸且自豪能够参与并创建一个如此宏伟的项目，该项目获得全球旅游行业同行的认可成就卓越。向华夏文旅集团表示最衷心的祝贺！感谢TEA Thea评委会！ACE也将一如既往，提供更加精良、更高水准、更丰富的视听产品和系统，服务于社会，服务于行业。

《驼铃传奇》系列中的一次飞跃

TEA Thea评委会的一份官方声明，描述了该项目显著特征：《驼铃传奇》秀展示行业内最高水平的视觉想象和设计。它以令人惊叹的舞台效果，宏大的道具，绝美的舞台布景，众多的演员，15米高的火山和雪山，18米高的佛像，以及4000平方米的LED屏幕作为舞台背景，让观众惊叹不已。创造性的设计并修建一座可旋转移动观众席，同时容纳3000人观看演出，打破了世界单一舞台演出模式，通过旋转行走看台将观众送至最佳观演位置，带给观众全新的视听享受。”

独特的剧院和音响系统设计

《驼铃传奇》秀是ACE的第二个华夏项目。双方2015年便开始合作，AEC为福建厦门的《闽南传奇》秀提供灯光控制系统。ACE在《驼铃传奇》秀中作用更为突出。曹荣臻说：“ACE提供了音频的整体设计，为秀设计了多声道



the equipment supplier for the entire audio system and the lighting and video control and server system.

The theater is 142 meters (L) by 128 meters (W) and 50 meters (H). The six sets for the show (one for each story chapter) ring the audience platform. Each set is an elaborate, permanent installation with integrated technology systems, rigging and effects. The rotating auditorium is capable of revolving 360 degrees, as well as back and forth, to bring the audience into position relative to the sets as the story unfolds. Show action equipment includes: Volcano/snow mountain (15 meters high), figure of Buddha (18 meters high), indoor waterfall (40 meters wide x 20 meters high) fed by a 2,000-ton water tank. The scenic backdrop is a giant, 4,000 square meter LED screen.

Bingo Tso gave some details of the custom setup. “The auditorium operates on a custom-designed control system, allowing the operators to bring the auditorium to different show positions with the touch of a button. The system is combined with a safety surveillance system that monitors the operation and every motion of the auditorium, E-stop and redundant failure system is also equipped. The control room for the moving auditorium, lighting, video, sound and special effects is located on the top level of the revolving auditorium. Motion controlled bridges connect

the auditorium to the stage for extended interactive show performance. The auditorium is also equipped with fire control equipment, climate control and an emergency evacuation system.”

Collaboration

ACE was contracted to AV and lighting integrator Weihai Yuanda Digital Technology Co., Ltd, a subsidiary of Hua Xia group for show production. ACE provided system design, technical support, system tuning services and equipment, while Weihai Yuanda was responsible for installation based on the design. The overall timeline for the project was 24 months, with ACE involvement in the final 12 months.

On the creative side, ACE worked closely with the music composer, Dong Gang, for the multi-channel sound imaging, and with lighting designer Meng Qin and video designer Li Guangcheng for the design of the control system for lighting and video. On the production side, ACE interacted closely with Weihai Yuanda Digital Technology Co., Ltd for system installation and integration, and also with Beijing Qicheng Oriental Culture and Art Co., Ltd, media producer for the show.

“‘The Legend of Camel Bells’ was the first project on which ACE collaborated with Huaxia on such a large scale, and thanks to the expertise and professionalism of the production team, the collaboration was very successful,” said Bingo Tso. “The creative team was led by the president of the Huaxia Group, Xia Chunting, who acted as chief director and scriptwriter and assembled the best artists from throughout China to produce the show. ACE is now a strategic cooperation partner with Huaxia Tourism and we are working with them on new theaters in Nanjing and Chengdu.”

Bingo Tso named some key team members: Weihai Yuanda Digital Technology Co., Ltd. (General Manager Tan Yuanxiang and Deputy Manager Tan Chao); Wang Xiaofei, General Manager of Huaxia Tourism; the show operations technical team (Audio technical manager Zou Junlong and Lighting technical manager Liu Changping); the ACE lighting and video team, Zhang Wei, Yang Zongjian and Zhu Lefeng) and the ACE audio team (Guo Feng, You Jiabin, Xiong Sihong, Zheng Chen).

Audio and operations

Some of the greatest tech design challenges had to do with audio. ACE’s own creative team, led by Bingo Tso

Photos of “The Legend of Camel Bells” production, construction and models are all courtesy of ACE. More photos are available online at inparkmagazine.com.

PA 系统，创造了3D声音图像，增强了客户体验。同时与旋转看台相结合，为六个不同的舞台侧面创建了3D声音图像。我们很高兴可以宣布能以合理的成本去提供这种优化的系统。 “

独特的多声道音频系统，解决了现场空间的声学挑战。ACE的曹荣臻先生设计了音频系统，包括线阵列扬声器群组作为主要PA，辅以补声的点声源扬声器、超低扬声器和监听扬声器，集成到剧场建筑结构中。专有的核心处理器，能够将立体声信号源向上混合到多声道中，通过精确放置的声效和最佳的声学效果，实现360度声音覆盖。

ACE在该项目上的服务，还包括音频系统的技术支持和系统调试、以及视频和灯光的控制系统设计。ACE还是整个音频系统以及灯光和视频控制和服务器系统的设备供应商。

剧院是142米（长）128米（宽）50米（高）。六个舞台（每个故事一个）围绕着观众席。每套都是精心设计的永久性安装的集成技术系统、装配和效果。观众席看台能够360度旋转和前后移动，在故事展开时将观众带入相应场景的位置。秀的动作设备包括：

火山/雪山（15米高），佛像（18米高），室内瀑布（40米宽x 20米高）由一个2000吨的水箱供给。风景秀丽的背景是一个4000平方米的巨型LED屏幕。

曹荣臻提供了一些自定义设置的细节：“看台采用定制设计的控制系统，操作员只需按一下按钮即可将看台带到不同的舞台位置。该系统与安全监控系统相结合，监控操作和看台的每一个动作，还配备了急停和冗余故障系统。移动看台、灯光、视频、声音和特效的控制室位于旋转看台的顶层。机械伸缩桥将看台连接到舞台，以实现扩展的交互式演出。看台还配备了消防设备、气候控制和紧急疏散系统。”

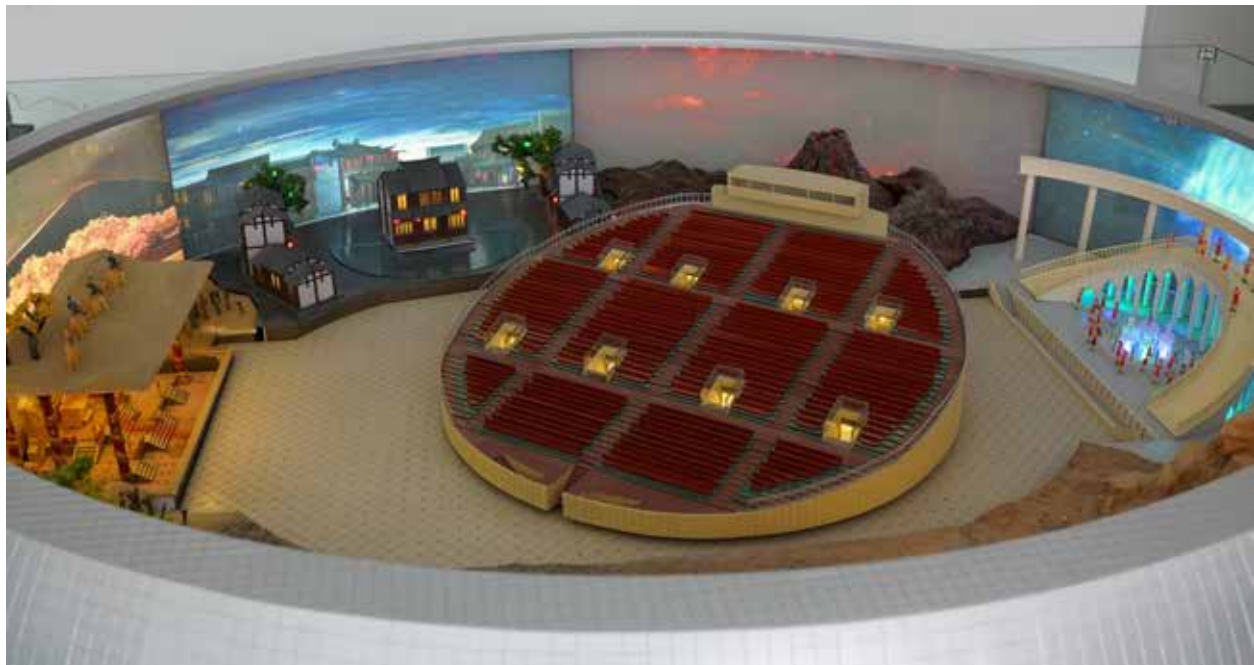
under direction from Xia Chunting, worked closely with the music composer on sound design.

The sheer size of the venue made it a challenging acoustic environment, and this was further complicated by the need to deliver sound for each of the six stages and provide a consistent audience experience from one segment to another. “We had to create six “sub-systems” [one for each stage],” said Bingo Tso. “The goal of the audio design was to deliver the best possible sound image for each stage and maintain even sound coverage and frequency response throughout the auditorium at the same time. For the Main PA speakers, we had 12 clusters of line-array speakers in LCR configuration, together with overhead and side delay speakers, contributed in stabilizing the sound image and ensuring consistent frequency response.

“Since the venue is very large, and the six stages have to share the speaker configuration as the auditorium revolves, we had to carefully design the system in order to control reverberation and unwanted energy. We used a digital routing network system for signal and control from top to bottom within the entire audio system. The digital processor and routing system in the audio system form the core. They allow the system engineers to control and tune each individual amplifier and speaker if necessary, and to recall cues in the system for different configuration during the segments. The digital system structure facilitates tuning as well as future changes to the show.”

Although “Camel Bells” is a permanent installation and technically very sophisticated, it is still live theater.

According to Bingo Tso, “Due to frequent re-choreography of the show, all the show control systems are currently independent; operators need to follow the music and technical show scripts to run the show. But the



合作

约制作协议。ACE提供系统设计、技术支持、系统调试服务和设备供货。ACE与华夏集团旗下的音视频和灯光系统集成商威海远大数码科技有限公司，而威海远大则负责基于设计的安装施工。该项目的总周期为24个月，ACE在最后12个月内参与其中。

在创作方面，ACE与音乐作曲家董刚密切合作，进行多声道声音制作，并与灯光设计师蒙秦和视频设计师李广成合作设计灯光和视频控制系统的设计。在制作方面，ACE与威海远大数码科技有限公司进行系统安装和集成，同时与视频内容制作公司北京启承东方文化艺术有限责任公司紧密衔接。

“《驼铃传奇》是ACE与华夏大规模合作的第一个项目，我要感谢制作团队的专业知识和专业精神，合作非常成功，”曹荣臻说。“创意团队由华夏集团总裁夏春亭领导，他担任总导演兼总撰稿，团队汇集了来自中国各地的最优秀的艺术家参与到设计制作中。ACE现在是华夏旅游的战略合作伙伴，我们正参与他们在南京和成都的新剧场的工作。”

曹荣臻提到了一些重要团队成员:威海远达数码科技有限公司总经理 谭远翔，副总经理谭超; 华夏文旅副总裁王晓飞; 演出运营技术团队音频技术经理邹军龙和灯光视频经理刘昌平; ACE灯光和视频团队张维、杨宗建，朱乐锋，ACE音响团队郭丰，尤家斌、熊思鸿，郑忱。感谢他们的专业精神，促成了项目的顺利进行。

音响系统和操作

音响系统在设计和制作中遇到了很多技术挑战。由曹荣臻带领的ACE设计团队在夏春亭的指导下，与音乐作曲家密切合作进行声音设计

巨大的场地规模，极富挑战的声学环境，且六个舞台的不断变换使情



system is capable of synchronizing lighting, audio and video together based on MIDI or timecode in the future.” He added that all departments have their emergency backup protocols, that training and routine evaluation are part of operations, and that ACE is under contract to provide maintenance and technical support for its AV and lighting system components.

An international honor and showcase

Members of the industry who attend the annual TEA Summit and Thea Case Studies April 11-12 can expect to learn more details about the design and production of “The Legend of Camel Bells.” Much of this annual conference that precedes the TEA Thea Awards Gala on April 13 is devoted to showcasing the projects to be awarded, with owners and creatives giving joint presentations to an audience of their peers in the attractions industry.

With this honor from TEA, “The Legend of Camel Bells” joins a select group. The TEA Thea Award is considered the highest professional honor in the visitor attractions industry. The stated objective of the TEA Thea Awards is “to find excellence and celebrate it.” From hundreds of nominations submitted for consideration, 17 recipients were chosen to receive Thea Awards for the 2018-19 cycle. The TEA Thea Awards Committee is a who’s who of distinguished industry professionals and leaders who

follow a rigorous, thorough and objective process of discussion and evaluation.

“We are deeply honored by this sign of international recognition from TEA,” said Xia Zhenxiang, President of Huaxia Cultural Tourism. “We congratulate everyone who helped to make ‘The Legend of Camel Bells’ a grand success. We express heartfelt congratulations and thanks to our team. ‘The Legend of Camel Bells’ and our other Legends heritage productions have helped to distinguish our growing network of world-class resorts and tourism destinations in China.”

Huaxia Cultural Tourism Group, established in 2009, specializes in investment, development and operations within the cultural tourism industry, in addition to the commercial development of creative cultural ideas, and the management and operation of cultural tourism projects for clients. The Group has five subsidiaries located in Weihai, Beijing, Xiamen, Xi ‘an, and Nanjing. The Group has been celebrated with numerous honors, including National Outstanding Contribution Award in Tourism Industry (Flying Horse Award), National Cultural Industry Demonstration Base, Top 10 Tourism & Entertainment Service Provider in China, No. 1 Characteristic Show in China’s Cultural Tourism, Top 10 Most Popular Tourist Performance in China, China’s No.1 Eco-town, and Gold Award for Global Cultural Tourism Destinations. • • •

况变得更复杂，每个场景都要有高度一致的观众体验。“我们必须创建六个子系统[每个场景一个]，”曹荣臻说。“音频设计是为每个舞台提供最佳的声像，同时在整个看台内保持均匀的声音覆盖和频率响应。对于扬声器(PA)，我们有12个LCR制式的线阵列扬声器组、同时配置了顶部和后区补声扬声器，有助于稳定声像并确保一致的频率响应。

“由于场地非常大，六个舞台必须在观众席旋转时共享扬声器配置，我们必须谨慎设计系统，控制混响和不必要的能量。我们在整个音响系统中使用数字路由网络系统，从前级到末级的每一个设备之间都建立数字传输和数字控制系统。音频系统中的数字处理器和路由系统构成了整个系统的核心。系统工程师可以在必要时控制和调整每个独立的放大器和扬声器，并在演出时根据编排调用系统的不同预设。数字系统结构有助于灵活调整节目，并在未来改进节目内容。”

虽然《驼铃》是一个固定演出，技术上非常复杂，但它仍然是现场演出。根据曹荣臻的所说，“由于节目频繁的重新编排，所有演出控制系统目前都是相对独立的;演出团队需要按照音乐和演出技术脚本运行节目。但该系统能够在未来基于MIDI或时间码，同步灯光、音频和视频系统。”他补充说所有部门都有自己的紧急备份预案，其中培训和例行评估是操作的一部分。ACE将基于合约，持续为其AV和灯光系统设备提供维护和技术支持。”

国际荣誉和展示

参加4月11日至12日举行的年度TEA峰会和Thea案例研究的行业成员可以期待了解更多有关《驼铃传奇》的设计和制作的详细信息。这个年度会议的大部分时间都在4月13日的TEA Thea颁奖晚会之前，拥有者和创作者会联合向业界做展示。

凭借TEA的这一荣誉，《驼铃传奇》加入了精英团体。TEA Thea奖被认为是



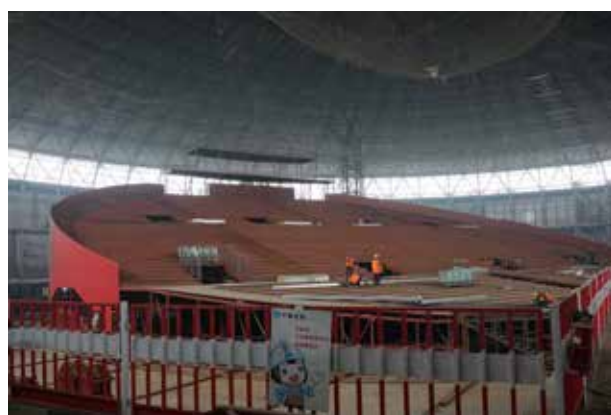
旅游景点行业的最高职业荣誉。TEA Thea奖的既定目标是“寻求卓越并庆祝它。”从提交审议的数百份提名中，17名获奖者被选中接受2018-2019周期的Thea奖。TEA Thea奖委员会成员是受人尊敬的行业专业人士和领导者，他们遵循严格、彻底、客观的讨论和评估过程。

华夏文化旅游总裁夏振翔说：“我们对TEA国际认可的这一标志深感荣幸。“我们祝贺所有帮助《驼铃传奇》取得圆满成功的人。我们衷心的祝贺并感谢我们的团队。《驼铃传奇》和我们的其他传奇遗产作品，将有助于在不断发展的中国世界级度假村和旅游地聚焦关注。”

华夏文旅集团成立于2009年，主要从事文化旅游产业投资、开发、运营、文化创意的输出及文化旅游项目的托管运营，下辖威海、北京、厦门、西安、南京五个子公司，集团先后荣获中国旅游产业杰出贡献奖（飞马奖）、国家文化产业示范基地、国家休闲渔业示范基地、中国旅游演艺机构十强、中国旅游演艺独角兽、中国文化旅游特色演艺第一秀、中国品牌文化影响力十大示范单位、中国旅游演艺票房十强、中国生态环保第一城等殊荣。



曹先生(左)在《驼铃传奇》建设期间进行实地考察



在这张建筑照片中，很容易看到旋转剧院的巨大规模和周围广阔的舞台空间。

《驼铃传奇》的制作、建造和模型的照片都是ACE的倾情分享。更多照片可在<http://inparkmagazine.com>在线获取。



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The United Kingdom pavilion design for Expo 2020 Dubai Photo courtesy of Es Devlin

2020 vision

In the world of world's fairs, Dubai 2020 moves forward, Osaka will host in 2025, and other candidates gear up for future bids

by James Ogul

Less than two years from this writing, Expo 2020 Dubai, the first world's fair to be held in the Middle East in the 167-year history of world's fairs, will open. Over its six-month run (October 20, 2020 - April 10, 2021) organizers project the event will draw 25 million visits, with 70% of those visits coming from outside the United Arab Emirates.

Over \$7 billion is being invested by the organizers and 190 countries have signed up to participate. At an expo of this scale, it is typical that participants design and construct their own buildings as well as the exhibits inside, with the whole expressing the theme of the expo. The Dubai

2020 theme is "Connecting Minds, Creating the Future." Participants' pavilion budgets for Dubai 2020 range all the way up to \$100 million (see chart).

USA Pavilion

The United States is one of the participating nations, and USA Pavilion CEO Greg Houston noted that Jim Core and his team at the US Department of State had been working closely with the Pavilion USA 2020 consortium to define what the guest experience of America should be for this international event. As part of the process, pavilion architect Curt Fentress, Consortium Chairman Fred Bush, and members of the design team took part in a week-

long planning session in the UAE with Expo 2020 Dubai leadership, the US Embassy, and early corporate partners. More information on the designs and experiences is being given during a phased roll-out over the coming months. The roll-out launched in November 2018.

The US Pavilion is a \$60 million project supported entirely by funds that must be raised from non-Government sources. It will feature a hyperloop ride experience courtesy of Virgin Hyperloop One. PepsiCo, Inc. which served as a Global Partner for the U.S. Pavilion at Expo 2010 Shanghai, has stepped up again as lead sponsor and Official Beverage partner for the pavilion. The circular pavilion will be illuminated at night with images displaying American landscapes. Construction is scheduled to begin in mid-2019.

Architecture: Fentress Architects

Exhibit Design: George P. Johnson Experiential Marketing

Brazil

Design elements of the Brazil pavilion were also recently revealed. It will focus on Brazil's rivers. It comprises a central square covered in a thin layer of water and enclosed by a tensile structure of 18.5 meters height and 48 meters width with a lightweight white fabric envelope. Intersecting the liquid surface is a continuous, dark path made of anti-slip, black concrete that invites visitors to wander within the pavilion's atmospheric interior, emphasized by various projections, sounds, and subtle scents.

Architecture: ben-avid, JPG.ARQ, and MMBB arquitetos

Japan

Japan too has unveiled the design for its pavilion at Expo 2020 in Dubai. Themed as the "Crosspoint for the Future," Japan's pavilion will showcase a façade with Arabesque and Japanese Asanoha patterns. The pavilion will host events throughout the six-month expo including workshops and Japanese culinary events.

Architecture/Concept Design: Yuko Nagayama & Associates

United Kingdom

The UK Pavilion was designed by British set designer, Es Devlin. Called the Poem Pavilion, the structure is said to be the first UK Pavilion at a world's fair created by a female designer. It will feature an illuminated "message to space" made up of AI-generated poems, to which the Expo's millions of visitors will be invited to contribute.

The 20-meter-high, cone-shaped pavilion will be made up of rows of protruding slats that extend outwards from one central point to form a circular facade. Poems lit up

National pavilion budgets planned for Expo 2020 Dubai

| | |
|-----------------------|---------------|
| Austria | \$20 million |
| China | \$100 million |
| Czech Republic | \$15 million |
| Estonia | \$6 million |
| Finland | \$22 million |
| France | \$37 million |
| Germany | \$61 million |
| India | \$58 million |
| Latvia | \$5 million |
| Luxembourg | \$31 million |
| New Zealand | \$39 million |
| Norway | \$18 million |
| Poland | \$27 million |
| Sweden | \$17 million |
| Switzerland | \$13 million |
| United States | \$60 million |

in LEDs will scroll across the facade. Inside the pavilion, the central space will be filled with a collective choral soundtrack, including choirs from every continent inspired by one of physicist Stephen Hawking's final projects from 2015, called Breakthrough Message - a global competition that invited people to create digital messages that would represent humanity, should our species encounter other advanced civilizations.

The project will be produced by London and Dubai-based brand agency Avantgarde, while Manchester-based structural engineer Atelier One and sustainability engineer Atelier Ten will help to deliver the complex sculptural architecture of the pavilion.

Designer: Es Devlin

Engineering: Atelier One/Atelier Ten

Germany

Germany has introduced "Campus Germany," a pavilion for Expo 2020 Dubai that will show off the latest in sustainable design and artificial intelligence. Visitors will be taken on a journey assisted by an intelligent assistance system called IAMU, which will provide them with information as they move through the building. Campus Germany will be located in Expo 2020's Sustainability District.

Designers: Cologne-based agency facts and fiction and Berlin-based architects LAVA

Dubai's thematic areas

As for the areas created by the Expo organization itself, concrete work for the three Thematic Districts - Opportunity, Mobility and Sustainability - are completed



The Germany pavilion design for Expo 2020 Dubai
Photo courtesy of LAVA (Laboratory For Visionary Architecture)



The Brazil pavilion design for Expo 2020 Dubai
Photo courtesy of ben-avid, JPG.ARQ, and MMBB arquitetos

and façade, mechanical, and electrical installation are taking place. All major design elements are reported to be complete - the last being the Al Wasl Plaza, a 130-metre wide, 67.5-meter-tall dome at the Expo's center. The Khaleej Times reported there are currently about 26,000 workers on the Expo site and early next year, at the peak of construction, approximately 40,000 workers are expected on site, including employees of third-party stakeholders and participating countries.

Expo 2025 - Osaka

On November 23, 2018, the host city of the 2025 world's fair was selected by the 167 member nations of the Bureau International des Expositions (BIE) in Paris. Competing for the privilege to host were Baku, Azerbaijan; Ekaterinburg, Russia; and Osaka, Japan.

Osaka won after two rounds of voting to organize World Expo 2025 in Osaka with the theme "Designing Future Society for Our Lives," over a six-month period (May 3 – November 3). This is a city that has successfully hosted world's fairs in the past: Expo 70 attracted 64 million visits, which was a world record until Expo 2010 Shanghai surpassed it at 73 million. In 1990, Osaka also hosted the International Horticultural Exposition, another category of global event under the administration of the BIE, and it had many characteristics of a world's fair in terms of scale, scope of participation and exhibits.

Beyond 2025

The next opportunity for a city to host a world's fair is the period between 2025 and 2030. Minnesota has had an organization in place for several years with the goal to host an expo. It is pursuing a bid to host a Specialized World Expo under the theme "Healthy People, Healthy Planet: Good Health and Well Being for All" in 2027. The proposed location for the Expo is in the South Loop area of Bloomington - near the Minneapolis-St. Paul Airport at the confluence of the Minnesota and Mississippi Rivers.

Expo site partners include the City of Bloomington and the Mall of America.

Minnesota USA Expo board member Mark Ritchie said, "With Osaka selected as the site for 2025 we can now fully engage the campaign for 2027. We have submitted our formal Application for US Department of Commerce review and are turning our attention to outreach to the BIE member states."

The city of Busan, in the Republic of Korea, recently held an international conference on a project to bid to host World Expo 2030. The conference gathered 300 experts from across the country and from further afield with the aim of further developing the potential Expo bid.

Busan has been planning a bid since 2015. The earliest a country can submit a bid for a World Expo is nine years before the proposed opening date, meaning that the candidature process will not begin before 2021. Once a country submits one bid, other countries have six months to file their own candidature with the BIE.

The Republic of Korea has successfully hosted two Specialized Expos - Taejon 1993 and Yeosu 2012, smaller, three-month events - but it has never hosted the larger-scale, broader six-month expo. We will be watching the competition with interest. • • •



Since retiring from the US State Department in 2011 after a 30+ year career in world expos, James Ogul has remained on the scene in an advisory and consulting role. He writes regularly for InPark Magazine about world's fairs. His book, "Tales from the Expo" is free online at inparkmagazine.com.

IAAPA Expo 2018 roundup

A special section devoted to the industry's biggest week in Orlando

InPark's editorial team: Rona Gindin, Joe Kleiman, Martin Palicki & Judith Rubin



IAAPA settles into Orlando, celebrates 100 years, rebrands

by Rona Gindin & Joe Kleiman

Orlando, November 2018 -- Kicking off the annual IAAPA Attractions Expo, the industry trade association unveiled a new logo and a new mission while introducing its new Board and announcing awards recipients. It does so as the association - which recently relocated its headquarters from Alexandria, VA to Orlando, FL - begins its second century serving the worldwide attractions industry, and constructs new offices. This year's Expo was the largest yet, with reported registration of some 42,000 industry professionals, and a full program of education and events in addition to a bustling exhibition hall. The sold-out trade show included the new "Exploration Station" - a temperature-controlled, covered outdoor space for some 140 of the 1,151 exhibitors.

IAAPA's new logo is a colorful pinwheel. The vibrant colors represent diversity, the flares forward motion, the burst in the middle inspiration, and the connecting letters in IAAPA itself represent connection. The new mission, or strategic plan, is to "continue to serve its members and uphold the highest levels of professional standards," said Andreas Andersen, 2018 chair of the IAAPA Board of Directors and president and CEO of Liseberg.

"IAAPA remains focused on helping produce safe and memorable experiences for all, and we look forward to this newest chapter in IAAPA history." The new brand and logo were determined following two years of study, during which time 2,209 industry professionals in 112 countries submitted surveys. According to IAAPA, the majority indicated that they want IAAPA to provide more connection with others in the field, more ways to interact, and more diversity. As part of the rebranding, IAAPA also renamed its three annual Expos to IAAPA Expo Asia, IAAPA Expo Europe, and IAAPA Expo [Orlando, USA].

The organization is building a new headquarters in Orlando and we were taken to the construction site for a sneak peek. Located at the intersection of highway 528 and John Young Drive, the new headquarters is equidistant from the Orange County Convention Center and the Orlando International Airport, about 10 minutes away in each direction.

IAAPA has been renting space at SeaWorld's corporate headquarters, but when the new IAAPA headquarters building opens in 2019 on the shores of Shingle Creek,



headwaters of the Everglades, it will be custom-made to meet the needs of IAAPA's staff and welcome its membership. It will even facilitate visits from members of the press, with podcast studios and the ability for live television feeds to international media.

While the new IAAPA Global Headquarters looks to the future, it also respects the past. In a place of honor within the building will be a carousel horse constructed for IAAPA by Dynamic Attractions, evoking the old logo, and throughout the facility will be displays of archival materials showcasing the birth, evolution, and growth of the industry. •

News from the IAAPA Orlando floor

New ride technologies and collaborative business ventures

by Rona Gindin

WhiteWater rebrands; will create parks with Cirque du Soleil

The biggest of several announcements from WhiteWater was its collaboration with Cirque du Soleil Entertainment Group. WhiteWater, best known as a leading manufacturer of waterpark equipment, and entertainment innovator Cirque du Soleil, announced having teamed up to create themed waterparks around the world. The parks will carry the Cirque du Soleil brand, and the look will have Cirque's signature dramatic, artistic feel during the day and after dark.

WhiteWater recently rebranded the company, following three-plus years of focus on its next direction. Part of the rebrand is a new tagline: Be Boundless, and a new logo designed to represent infinite possibilities.

New Vantage technology from WhiteWater is designed to provide helpful data - real-time data for guests, and real-time and long-term data for management. Vantage

can be applied to steer guests toward shorter lines, to enable staffers to load rafts efficiently because they know guests' weights, and to provide detailed data that will help operators adapt their operations in the future. Vantage will first be installed at a Margaritaville resort with a waterpark in Florida that is currently under construction.

WhiteWater also announced licensing agreements. Going forward, the company will license foam rubber flooring called Life Floor, touted for being soft and slip-resistant, and facilitating a better play experience for children. "They can do somersaults on Life Floor," said Chief Business Development Officer Paul Chutter. In addition, WhiteWater will license a rotating waterslide with Wiegand Maelzer, called the SlideWheel, that is designed to offer three riding experiences in one. "With intense G-forces, backwards sliding, oscillating movements, and plenty of airtime fun," marketing materials say, SlideWheel will provide multiple sensations. A new attraction at Chimelong Waterpark in Guangzhou, China, featuring SlideWheel was just named to receive a TEA Thea Award for Outstanding Achievement. Separately, WhiteWater has signed a licensing agreement with HolodeckVR to create water rides that use virtual reality technology.

Li-Fly by Holovis offers a new style of flying theater

Experiential design company Holovis was showing a visualization of its new flying theater technology Li-Fly, which allows seats to be inverted and rotated a full 360 degrees while surrounded by media and effects and experiencing five degrees of motion. Holovis' Extended Experience real-time media technology can be integrated as well, enabling guests to customize their own



Concept art for the new Cirque du Soleil waterparks
Image courtesy of WhiteWater & Legacy Entertainment



experiences, according to creative director Peter Cliff, who suggested that waterpark operators could use Li-Fly to create unique new experiences for guests. Li-Fly is scalable and can accommodate up to 100 under a dome screen. “You can have one unit or 20,” said Cliff. Li-Fly is designed in standard and hexapod versions. A prototype will debut in June at the IAAPA Expo Asia in Hong Kong.

Dynamic Attractions gears up for racing mode

Dynamic Attractions has introduced the Dual Power Coaster, billed as a “high-octane, immersive, robotic dark ride” roller coaster that has drag racing elements. The debut was announced by company president Hao Wong at the 2018 IAAPA Attractions Expo. The Dual Power Coaster is notable for its racing moves including spin-outs. “The cart itself is powered and moves, creating racing sensations never possible before on a roller coaster,” said Wong. The ride will debut at a Malaysian attraction in the spring of 2019.

Elements include four degrees of freedom, through which vehicles can go up and down, side to side and even pitch forward and change heading, all imitating race cars.

Likewise, the vehicles’ dual propulsion element enables cars to surge ahead quickly periodically. Augmented reality can be added to enhance the experience. In other news, at the same November 13 press conference, Dynamic Attractions announced a strategic alliance with Chance Rides, which will support Dynamic with manufacturing. Chance Rides will build ride elements at its Wichita, Kansas, facility, allowing Dynamic to fill orders more quickly than before.

Sansei’s transforming robot ride

Sansei Technologies and subsidiary S&S Worldwide introduced the J-Deite Ride. It’s a two-passenger car that can go as fast as 60 kilometers per hour, then turns into a robot that can walk and pivot. The J-Deite, which weighs 1.7 tons, debuted at the 2018 IAAPA Attractions Expo in Orlando on November 13.

Guests can sit in the cockpit of the J-Deite as it extends into a 4-meter-high, bipedal robot. Likewise, employees can be in the cockpit and greet guests in the park. Other possible uses being promoted for the J-Deite include go-kart, parade vehicle, dark ride vehicle and event

Board news

David Rosenberg of Monterey Bay Aquarium stepped in as incoming chair of IAAPA’s Board. Speaking about issues of sustainability and animal safety, he said, “The industry must become part of the solution.” Rosenberg announced that IAAPA now has a five-year plan to institute ideas such as being nimble and adapting swiftly to market changes. He also indicated that IAAPA will plan more networking events so members can meet and learn from each other.

Board leadership includes:

- IAAPA President and CEO – Hal McEvoy, IAAPA
- Chair – David Rosenberg, vice president, Monterey Bay Aquarium, United States
- First Vice Chair – Amanda Thompson OBE, managing director, Blackpool Pleasure Beach Ltd., and president, Stageworks Worldwide Productions, United Kingdom
- Second Vice Chair – Ken Whiting, president, Whiting’s Foods at Santa Cruz Beach Boardwalk, United States
- Treasurer – Charles “Hank” Salemi, president, Six Flags Great America, United States
- Immediate Past Chair – Andreas Andersen, CEO and president, Liseberg Group, Sweden

New to the IAAPA Board:

- Facility and Life Directors:
 - Ted Molter, chief marketing officer, San Diego Zoo Global, United States
 - Anne Rashford, director of special exhibitions, Museum of Science and Industry, United States
 - Ash Smart, deputy managing and financial director, Harbour Park, United Kingdom
- Past Chair Director:
 - Robert “Bob” Rippey, president, Jungle Rapids/Wrightsville Farms Management Group, Inc., United States
- Manufacturer and Supplier Committee Chair / Director:
 - Francess Gonzales, EVP of business development, WhiteWater West Industries, United States
- Latin America Regional Advisory Committee Chair / Director:
 - Luciana Periales, CEO, Neverland, Argentina
- Asia-Pacific Regional Advisory Committee Chair / Director:
 - Luke Riley, senior VP of international development, Village Roadshow Theme Parks, Hong Kong, China

centerpiece. It is powered by lithium batteries and can be operated by the driver, or remotely. The J-Deite was created in conjunction with Asratec Corp., which makes robotic software, and Brave Robotics. Sansei is based in Osaka, Japan. S&S Worldwide Inc. is in Logan, Utah.

Madame Tussauds interactive Aquaman

An ultra-realistic Aquaman, based on the character played by actor Jason Momoa, joins the superhero lineups at Madame Tussauds attractions in Orlando, Florida, and Sydney, Australia, in December 2018. Unveiled at a press conference during the 2018 IAAPA Attractions Expo, Aquaman will reside within the attractions' Justice League: A Call for Heroes section. His costume is an exact replica of the one in the movie, made by the same team.

The Aquaman figure is interactive. Guests who tug the character's trident will experience audio, scent and additional features indicating a storm at sea meant to destroy evil, including a swirl of rising water and music. Daniels Wood Land provided theming fabrication while Holovis contributed technology features.



Aquaman interactive figure Photo courtesy of Madame Tussauds

Award news

APPLAUSE AWARD - Xcaret by Mexico was named for the Liseberg Applause Award, recognizing its "world-class experiences based on native culture and natural attractions, with sustainable operations and a strong commitment to the local community," to quote Andreas Andersen, who chairs the Applause Award Board of Governors. Xcaret beat out two other semifinalists, Universal Studios Japan and PortAventura World in Spain. The award is given every other year.

HALL OF FAME - IAAPA named 11 recipients of its annual Hall of Fame honor. Family members of several stepped up to accept the honor on behalf of their late relatives. Recognized were:

- Edward Joy Morris, Morris Chute Company, United States (1860-1929)
- Irving Rosenthal, Coney Island, Palisades Amusement Park, United States (1895-1973)
- Alfred R. Hodge, National Association of Amusement Parks / IAAPA, United States (1881-1946)
- Levitt Luzern Custer, Custer Specialty Co., United States (1888-1962)
- Dr. Harry Wegeforth, Zoological Society of San Diego, United States (1882-1941)
- Frank Hrubetz and Lee Eyerly, Eyerly Aircraft Company, United States, (1906-1987) and (1892-1963)
- Phil Dexter, Big Surf Waterpark, United States (1927-2014)
- Marcelo Periales, Neverland, Argentina (1955-2013)
- Gary Story, Premier Parks / Six Flags Entertainment, United States (1955-2013)
- Alexander "Al" Weber, Jr., Paramount Parks, Palace Entertainment, Six Flags Entertainment, Apex Parks Group, United States (1952-2016)

BRASS RING - Recognizing excellence in specific areas, IAAPA named a few dozen winners of its Brass Ring Award. Recipients include the following; visit IAAPA.org for details.

- Top Family Entertainment Center (FEC) of the World - Jake's Unlimited; Mesa, Arizona, United States
- Best Atmosphere/Street Show Performance/Act - "Sesame Street Party Parade," SeaWorld San Diego, San Diego, California, United States
- Most Creative Halloween Haunt, Show, or Experience - "Hell's Grand Finale," Ocean Park Corporation, Hong Kong, China
- Most Creative Multimedia Spectacular - "Celebrate! Tokyo Disneyland," Disney Parks Live Entertainment, Tokyo, Japan



New Saudi entertainment venture

Former Disney executive Bill Ernest will head up a massive project to build attractions around the country of Saudi Arabia, the nation announced on November 14 at the 2018 IAAPA Attractions Expo. Ernest spent 25 years with The Walt Disney Company, several in Asia, most recently as President and Managing Director of Asia for Walt Disney Parks and Resorts.

In his new role, Ernest will be Chief Executive Officer of SEVEN, the fully owned Saudi public investment fund also called Saudi Entertainment Ventures Company. SEVEN is a collaboration involving four government entities. It seeks partnerships with private sector enterprises. Established in December 2017, SEVEN has ambitious plans to open family-oriented entertainment clusters in large and secondary Saudi cities. It has already begun the process of bringing movie theaters to Saudi Arabia. It currently has licenses with four cinema companies and seeks to establish up to 16 more such relationships.

The entertainment clusters, which will each be similar yet reflect local flavors, might include theme parks, water parks, scuba diving, zoos and live entertainment in addition to foodservice and retail outlets. SEVEN also plans to build family entertainment centers near malls.

Citing reasons for building these entertainment clusters, Ernest and Abdullah Al-Dawood, chairman of SEVEN, cite that nearly 60 percent of the country's 32 million residents are under age 30 and have expendable income. In the last few years, they indicated, a large percentage of Saudis traveled to neighboring countries and Florida,



Amr A. Banaja (L) CEO General Entertainment Authority, Saudi Arabia and Bill Ernest CEO of Saudi Entertainment Ventures (SEVEN) Photo by Gerardo Mora/Getty Images for SEVEN, SA

particularly Orlando, for leisure purposes, spending \$6 billion a year. The goal is to keep some of those leisure dollars in the country. Likewise, the new facilities will precipitate new jobs and job-training efforts. SEVEN would like to lure visitors from other countries as well as locals. For major events such as the Ad Diriyah E-Prix race, Saudi Arabia will issue temporary visas along with tickets.

DNP polishes up its photos

Shiny photos with intriguing finishes are the newest offering that DNP Photo Imaging provides to attractions looking to keep their photo-printing offerings robust. Billed as Luxury Media, the line provides a metallic paper, which makes photographs look almost three-dimensional, and a Silver Pearl finish, which softens images. "We want attractions to be able to sell something really fun," said Director of Sales Cliff Reeves. The photographs also can be printed with custom words at the bottom. "It's like Instagram on paper."

An array of DNP specialty photo prints Photo by Rona Gindin



Noting that the print photography business is in less demand at attractions since guests take multiple photographs with their own cameras and phones, Reeves encouraged attractions operators to try new tactics using these new Luxury Media papers, which are an option guests cannot get at home. "We expect attractions operators to use their creativity to create something people will really like," he said, noting that the shiny papers "don't cost much more" than traditional papers. The Luxury Media line is available in the United States and Europe. Another new product, called Partial Matte, can have a logo or image within the laminate coating, so it shows as a subtle watermark on the printed picture. •

Oceaneering's trackless vehicles become self-driving as well

Parking lots, campuses and zoo tours are target markets for the REVO-GT™

by Rona Gindin

Out in the non-attractions world, Google and others are working to perfect the first self-driving car. Meanwhile, Oceaneering Entertainment Systems appears to have quietly mastered the challenge – illustrating that the attractions industry continues to be a great creative and tech incubator.

IAAPA premiere

Specializing in vehicles for visitor attractions, Oceaneering Entertainment is part of Oceaneering, a global provider of engineered services and products with markets in offshore energy defense and aerospace.

The new trackless self-driving vehicle, the REVO-GT™, had its world premiere in November 2018 at the IAAPA Attractions Expo in Orlando. Oceaneering describes the REVO-GT™ as an “automatic guided vehicle for transit applications.” The first vehicles are scheduled to start shipping in 2019.

The REVO-GT™ builds upon the company's existing Tru-Trackless REVOLUTION™ technology, featuring self-powered AGVs (automated guided vehicles) designed for use in dark rides and theme parks, with no need for tracks. Over the past few years, REVOLUTION™ technology has been recognized with a TEA Thea Award and installed in a number of theme park attractions.

For REVO-GT™, Oceaneering added high-tech extras and set parameters for a self-driving vehicle that will be used only in situations with controlled or semi-controlled traffic.

“The guidance system is the same as for REVOLUTION™, our trackless AGV ride vehicles,” said Bill Bunting, director of business development for Oceaneering Entertainment Systems. He explained that REVOLUTION's technology has been used on Antarctica: Empire of the Penguin at SeaWorld Orlando, and also at Justice League: Warworld Attacks at Warner Bros. World Abu Dhabi. It has also been customized to create proprietary rides for some of the largest theme park companies in the world.

Tram alternative

Oceaneering's immediate aim is to see REVO-GT™ used as transportation in attractions parking lots, replacing



buses and trams, for example. They also foresee placement in college campus, hospital campus and airport parking lots. But there's no telling how else these vehicles might be adapted in future years, and they're designed for versatility.

A sleek, 24-passenger, climate-controlled prototype vehicle with large windows, the REVO-GT™ takes a step into the future. Nearly 20 feet long, 6.89 feet wide and 9.19 feet tall, the spiffy-looking transporter can move forwards and backwards. It's trackless, following a programmed route, as REVOLUTION™ vehicles do. “We tell it where we want it to go, then it navigates itself following those directions,” Bunting explained.

According to Bunting, a train of REVO-GT™ cars can start out on a path together, then break off to go in different directions, with pre-sets for route, speed, direction and path, and the option to change those to meet demand. “They can either be set to run in an auto-mode, using a series of pre-programmed point-to-point routes



with multiple stops along the way, or can be set to take passenger inputs to select only those stops that they need,” Bunting said. “On a campus environment, for example, the vehicle would have multiple paths pre-programmed connecting every possible stop. In guest-select mode, any guest boarding could select any stop, and the RV would pick the most efficient route to that stop. This is typically used when demand is low. In high demand, the auto-mode would be used and the RV would take a route that hit multiple stops, much like a bus service.”

Multi-point reliability

The REVO-GT™ has several safeguards built into its operational system. First, the operator programs the route, just as in a trackless theme park ride. “We tell it where we want it to go, then it navigates itself following those directions,” Bunting explained. The vehicle checks its own position 50 times every second. Simultaneously, a built-in guidance system uses proprietary software to count rotations of the wheel, which indicates how far the vehicle has traveled. “This dead reckoning system adjusts for turning of the wheel,” Bunting said. In addition, nickel-sized, silicone-coated magnets underground confirm the route. “The system is saying, ‘I’m supposed to be here,’” Bunting said. “It’s the same as if you drive a car from Orlando to Denver. You turn on your GPS or follow a map, yet every so often you peek at a road sign to make sure you’re not going to Cleveland.”

Meanwhile, a control center, involving a master computer and a live person, monitors all the vehicles at a location from a traffic perspective, looking for anomalies or possible hazards. The REVO-GT™ can sense objects, or people, coming toward it and will stop in response.

Oceaneering worked with a seasoned transit partner, Netherlands-based 2getthere, to develop this product. 2getthere specializes in making Group Rapid Transit (GRT) automated transit vehicles, and The REVO-GT™ is the third generation of 2getthere’s GRTs.

Customization

While the standard REVO-GT fits 24 passengers, eight seated and 16 standing, Oceaneering will scale it down upon request. “A smaller vehicle can fit five or six passengers, and we refer to that as a PRT for Personal Rapid Transit,” Bunting said. The REVO-GT™ drives at up to 37 miles per hour, and charges automatically at every stop via a charging system implanted in the ground that sends a current to the battery. “It can go up to 50 kilometers on one charge,” Bunting said, noting that the battery rarely falls below a 90 percent charge. Audiovisual elements can be integrated as well. •

Learn more at oceaneering.com/entertainment-systems/group-transportation-systems/

Groundbreaking coasters, innovative technologies, IP licensing

by Joe Kleiman

SeaWorld integrates conservation education with new rides

Our IAAPA press circuit began with a press conference hosted by John Reilly, Interim CEO of SeaWorld Parks & Entertainment. He emphasized the company's dedication to conservation, noting that SeaWorld San Diego had won multiple awards for its efforts in recycling and waste reduction. Reilly then pointed out that three new SeaWorld and Busch Gardens attractions opening in 2019 would be tied in with conservation efforts.

At Busch Gardens Tampa, the Tigris triple-launch coaster from Premier Rides will feature inspiring videos about tigers in the wild and the role the SeaWorld-Busch Gardens Conservation fund plays in saving them in the wild. SeaWorld San Antonio will feature a new area, "Turtle Reef." In addition to two new flat rides, the area will feature a 126-thousand-gallon environment for sea turtles, operated in conjunction with the University of Texas. Skyline Attraction's Tidal Twister at SeaWorld San Diego, a double loop dueling coaster on its side, will be the center of a reimagined aquarium area that will showcase the work of SeaWorld's Rising Tide partnership for ocean conservation.

A Lego model of the new themed world at LEGOLAND Florida Resort Photo courtesy of Joe Kleiman



SeaWorld is offering new rides and attractions at each of its parks in 2019, including the Aquatica waterpark brand, which turns 10 years old.

Sesame Street, for which SeaWorld has the exclusive US theme park license, turns 40 in 2019 and the company is celebrating in a big way. Sesame Street characters Abby and Elmo joined Reilly on stage to discuss the new Sesame Street land coming to SeaWorld Orlando, which will be a full-scale experience of the beloved television series.

Meanwhile, overseas....

Spain's PortAventura World is expanding its own Sesame Street themed land, SésamoAventura, with the first Sesame Street themed dark ride in Europe. The interactive ride has been designed in conjunction with Sesame Workshop and Sally Corporation and is scheduled for a 2019 opening. [see story on p. 35] The 14,000 square foot building is already under construction and, according to PortAventura General Manager Fernando Aldecoa, is part of a new collaborative partnership between the resort and Sesame Workshop, with future projects that will further extend the brand's presence at PortAventura.

Spin and fly

While Sesame Street makes its home in Central Florida at SeaWorld Orlando, elsewhere in Central Florida "The LEGO Movie" is getting its own themed world at LEGOLAND Florida Resort. LEGOLAND officials unveiled a LEGO model of the land, which rotated to reveal Brogent's new m-ride flying theater design, made out of LEGOs, of course. The new system will be used in the "LEGO Movie Masters of Flight" attraction. With the m-ride system, passengers board their gondolas, which are then rotated 180 degrees to suspend them above the screen, creating a new way to reveal the action. LEGOLAND also announced plans for another themed hotel.

Premier Rides says, "Let them eat cake!"

Ride car unveilings have become big events at IAAPA Expos, and Premier Rides and SeaWorld Parks & Entertainment took a unique approach with the unveiling of a Tigris train – in the form of a cake.



Concept art for Polin's clear fiberglass waterslide Photo courtesy of Polin

At the Premier booth, we spoke with company President Jim Seay about the latest developments with ASTM f24, the attractions industry safety committee that he chairs. "Growth has been spectacular," he said. "We now have over 1,000 global members. As new technologies and new products enter the marketplace, we're creating new subcommittees and task groups to deal with them." As an example, Seay brought up the popular jetpacks that propel riders in the air on a plume of water. "This was a completely new product for the industry, so we had to create a new task force with experts related to the product in order to establish safety guidelines."

Polin goes clear

Two key attractions stood out this year at the Polin booth. One was Stardust, which integrates the slide structure into a story about a crashed spaceship buried for millennia. After watching a pre-show video, riders then slide through the fuselage of the ship. Polin marketing materials describe it as "storytelling in waterslides."

Polin has also developed clear composite for waterpark applications, a technology breakthrough making it possible to build transparent waterslides. A transparent waterslide may seem like a simple thing, but it is in fact a considerable

achievement to combine transparency with the qualities needed to withstand the wear and tear of a waterpark environment. Even brackets for the slide components are made of this material, allowing for full transparency throughout the experience. We'll be seeing you!

Making an Impact

In a new joint venture, Denise Chapman Weston, a "playologist" probably best known for the MagiQuest technology that was honored some years ago with a TEA Thea Award, is joining forces with Brian Morrow of Bmorrow Productions and Weber Group to create Impact! Attractions. The company is positioned to develop sustainable attractions utilizing "solar, wind, hydro & play power to reach a goal of net zero energy impact." Impact envisions its interactive play areas as ideal for theme parks, municipal parks, or even on or inside buildings. According to Weston, the company is close to finalizing its first locations.

Technology for storytelling

Tritotech continues its partnership with Ubisoft with the introduction of Rabbids Team Battle. Divided into two sides in a theater, two teams compete against each other to defeat the ever-wily Rabbids. According to Ernest Yale, Tritotech CEO, the theaters can hold 40-100 people, with an hourly throughput of 900. The theater uses a 270 degree projection system and is targeted for regional theme parks and standalone attractions.

At Alterface, CEO Benoit Cornet demonstrated the NOMAD wireless pointing and shooting system. In the demonstration, Cornet used a wand to show how the pointer could be used as both a targeting device and to control an environment. He foresees the device as having impact throughout a park rather than just a single attraction, with a chip inside keeping track of tasks attempted each visit.

Inside out

Alcorn McBride continues to expand its offerings for parade floats and dark ride vehicles, now offering full interface between internal and external audio units. Two new products showcased this year are the next generation of the V16 show control series, the V16X, which can be operated on two or more isolated networks and synchs with RidePlayer through the same operating system, and RideAmp, a 4-channel 350W on-ride amplifier designed to accompany the RidePlayer on-board audio player.

Licensing is the future

Feld Entertainment is bringing back Ringling Brothers – but not as a circus. The company is looking at its portfolio of brands, primarily Monster Jam, which holds 350 live

[continued on page 37]

Can you tell me how to get to SésamoAventura?

Sally Corporation helps bring Big Bird and friends to PortAventura dark ride

by Joe Kleiman

Founded in 1977, Sally Corporation began as an animatronic production company to help market corporate brands, and evolved into a worldwide leader in the design and manufacturing of dark rides. The company's services include custom design, special effects, animatronic and scenic fabrication, media integration, control systems and installation. The company's JUSTICE LEAGUE™: Battle for Metropolis at Six Flags Magic Mountain was recently named for a TEA Thea Award.

Sesame Street is an international educational television franchise designed to promote cognitive thinking and explore topics that are relevant to young children and their families. It premiered in 1969 in the United States, followed by a Spanish-language version, Barrio Sésamo, premiering in Spain in 1979. As a result of the show's continuing success in the Spanish market, Sesame Street's producer Sesame Workshop entered into a partnership with the PortAventura resort in Spain, which led to opening the SésamoAventura themed area in 2011. During the IAAPA Attractions Expo in Orlando, Sally unveiled a full-size (eight-foot tall) animatronic figure of Sesame Street icon Big Bird as it announced a new collaboration with Sesame Workshop and PortAventura World Resort at the Sally exhibit booth on Nov 13, 2018. The unique project will introduce a Sesame Street-themed dark ride to SésamoAventura. On the show floor immediately following the announcement, InPark's Joe Kleiman interviewed key stakeholders: John Wood, Chairman and CEO of Sally Corporation; Fernando Aldecoa Aldecoa, Director General of PortAventura World; and Ed Wells, Executive Vice President and Head of International at Sesame Workshop.

The new Sesame Street interactive dark ride comes on the heels of numerous new developments at PortAventura, including the Angkor area and Ferrari Land. Tell us about the motivation to put new emphasis on Sesame Street, with a contract renewed through 2030.

Fernando Aldecoa: We have become a destination for families and there was really only one kind of ride in PortAventura for families – and it was a barrel ride. So when we started to think what the best new ride could be for families, it had to be a strong IP, and that's Sesame



Street. We determined the best partners for our new ride would be Sesame Workshop and Sally Corporation.

A defining characteristic of Sesame Street is that it is both entertaining and educational. How will education be a part of the attraction?

Ed Wells: We build education into everything that we do, even when it appears entertaining on the surface. In this case, the ride has kids looking for clues. They have to persevere, they have to keep trying. There's always some underlying educational element. Certainly, you can count the number of clues that you capture as well, which are the equivalent of your ABCs and 123s.

How closely did Sally, as the provider of this ride, work with the park and with Sesame?

John Wood: Very closely – all the way through. We designed the ride. We came up with the concept, worked

closely with PortAventura to have them accept the concept before we went further. They had a clear idea of what they wanted when they came and met with us, so we did a first cut on the script, passed it to PortAventura for their approval, and they in turn took it back to Sesame Workshop in order to get their approval. That back-and-forth took place over the last three months. We follow a similar process with all of our productions. We have to make sure that we're exact in our delivery – precise to the mission as well as to the image.

PortAventura is visited by many international guests. Will the ride soundtrack be available in multiple languages?

FL: It will be in Spanish and a range of other, international languages.

JW: We're doing international languages out of the vehicle itself. We have the dialogue mostly in Spanish, but we have instructions in French and in English and in other languages – we have five languages.

Sally is a seasoned dark ride provider that has kept pace with technology, design, the evolution of markets and the application of intellectual property to attractions. Are there some unique features to this new Sesame Street themed ride for PortAventura that the world may not have seen or experienced before on a Sally attraction?

JW: There are, but I'm not at liberty to talk about it just yet. But yes, this is going to be a different experience than anything we've done before. It truly is. You're still going to see animatronics. Some of the bigger stars appear both on-screen and off-screen. There will be practical sets, as there have been before. You are going into Sesame Street. You are IN Sesame Street. No doubt about it. With the characters and with the action, you are finding the clues throughout the environment that everyone knows from TV. •

For more information, visit www.sallycorp.com.

**FIRST EVER
SESAME STREET® DARK RIDE
IN EUROPE**

**ONLY AT
PortAventura®
WORLD**

PARKS & RESORT

Advertisement for the new Sesame Street themed dark ride
Photo courtesy of PortAventura

monster truck events each year, and Ringling Brothers, for licensing opportunities in the LBE and theme park markets. According to Julitte Feld-Grossman, one of the third generation of the Feld family to run the company, “We’re talking with partners about bringing back the Ringling brand in a reimagined way that makes it current.” Feld is also collaborating with Universal Pictures, having recently opened a “DreamWorks Trolls” attraction near Times Square, and the two are preparing a “Jurassic World” attraction as well.

At Apple Industries, best known for its Face Place photo booths, the big attraction is the Marvel Adventure

Lab, which digitizes patrons into a Marvel comic book. The company has licensed the full portfolio of Marvel characters, with Iron Man’s AI companion Jarvis acting as guide through the experience. Other Face Place units integrated licensed characters from Universal, Warner Bros., and Sony.

Apple has also introduced Print Bundii, a digital photo printer tied in with a smartphone app that allows photos to be directly printed from the phone. IAAPA Attractions Expo marked the introduction of this product to the attractions market. •

Rides, slides, parks & visuals

by Martin Palicki

Christie: The very near future

Christie has a well-established line of projector and systems products, but for this year’s IAAPA Expo, they opted to pull back the curtain on the products and technologies coming to market in the next year, or what Christie’s Marketing Programs Manager for Entertainment, Virginia Dwyer, called “a glimpse into the very near future.”

The Christie Automatic Content Generator (working title) is a system designed to simplify creating projection mapping installations. The program starts with a base animation and the customer can select or add their own images for the system to generate a fully rendered projection mapping animation sequence. The typical customer might be a museum or office building looking to create a mapping for a lobby wall or other space that

isn’t looking for a storytelling component, but rather a selection of intriguing and changing images.

The Multi Point of View system (also a working title) combines a high-frame-rate projector with high-speed, shuttering glasses to allow four individuals to simultaneously view four different streams. The 240 fps (frames per second) projector cycles through each of the four films one frame at a time. The glasses shutter out most of the frames so each viewer only sees 60 fps, or one out of every four frames. In this way, the four separate content streams can be viewed simultaneously, depending on which frames are permitted through the glasses. One likely application, and the one Christie had set up as a demo, is in gaming. During the Expo, guests could try their hand at a driving game, racing against three other cars, but each player seeing the perspective of their own car. Another use could be for providing film captions in different languages.

Designed for installation versatility, the Mirage SST projector is a 30k lumen projector with a separate head and light source. Weighing a relatively light 110 lbs, the head can be mounted and connected to the light source box (339 lbs) via a fiber cable up to 10 meters in length. The Mirage SST is a RGB laser projector and the light source requires a fair amount of cooling. The separated set-up allows the cooling to happen in a space away from the projection area. “It’s a system designed for flexibility,” explained Dwyer. “Plus lenses from our Boxer line are interchangeable with the Mirage.” It is also compatible with Christie’s Mystique and Guardian auto-calibration



The Multi Point of View system allows four player to see four different game perspectives on the same screen.



systems, making the Mirage ideal for giant screen and dome applications. The Mirage SST is set to debut in the first quarter of 2019.

Saucers and racers and coasters: ProSlide

Ray Smegal, Vice President Product Development for ProSlide, identified three themes to look for in the coming year of ProSlide installations:

1. Flying Saucers: “This is a paradigm shift,” said Smegal. “It’s the new way to make turns on a waterslide.” The curving segment of slide mimics the path of a slalom ski turn, with a wide, relatively flat saucer area on one side drawing riders’ attentions away from the path in front of them. The result is a turning drop that surprises the rider and provides an unexpected thrill.

2. Rally Racers: This mat or tube slide reinvents the concept of a racing slide by inserting “rallying points” along the enclosed path – sections where sliders can see others racing against them. “A little bit of competition in the waterpark makes attractions even more fun for guests,” said Smegal.

3. Water Coasters: “Everybody loves coasters,” said Smegal, “and we have a wide variety to choose from.” The newest models are dueling coasters, which add an element of competition and surprises riders by having the rafts meet on different sides of each other along the course.

All of ProSlide’s products are based on the concept that the ride experience is central to the design process. “The quality of the experience really matters and developing rides around that is what makes them successful,” said Smegal.

A fresh take from Legacy

During the Expo, Legacy Entertainment released news about two new parks they are designing, the Trans Studio parks in Bali and near Jakarta. President and CCO at Legacy, Taylor Jeffs, filled InPark in on some of the details.

“We had to figure out how we could develop a fresh and exciting take on a studio park,” explained Jeffs. “So we created a park that was designed for the camera.” The camera he’s referring to, of course, is the one in nearly every guest’s pocket. Dubbed a social media theme park, over 20 experiences will allow guests to have fun while capturing the perfect sharable photo.

“We know that ideas don’t always have to be big, but they have to be good,” said Jeffs. For example, plans call to take a standard Zamperla Ferris wheel and create a huge puppet that is “cranking” the wheel. “It’s a fun ride, but it’s also a photo op.”

“In an age where everything needs to be sticky,” said Jeffs, “this is how we get our park to stand out.” •

Themed Entertainment Association news

by Judith Rubin

As has been the case for many years, the Themed Entertainment Association (TEA) booth was a bustling town square within the High-Tech section of the IAAPA Expo trade show floor. The international nonprofit membership association, founded in 1991 and headquartered in Burbank, CA, serves the attractions supplier community – “creators of compelling places and experiences.” TEA makes the most of the setting and international industry crowd to host its busy international mixer and hold its annual leadership transitions and Members Meeting in conjunction with the Expo, and to announce the new slate of TEA Thea Awards recipients.

New TEA International Board President Michael Mercadante of Main Street Design (who would be officially installed in his new position the next day at the TEA Members Meeting) announced the 25th annual TEA Thea Awards at the TEA booth on Nov 13. The list of recipients includes Mark Woodbury of

Universal Creative, who will receive lifetime honors, Dollywood (Thea Classic), Intel Corp.’s Shooting Star Drone System (Outstanding Technical Innovation) and 14 others. Several recipients had representation on hand for the announcement, such as Princess Cruises (for “Fantastic Journey”), Universal Studios Japan (for Universal Spectacle Night Parade – The Best of Hollywood), Chimelong Group (for SlideWheel at Chimelong Waterpark) and LEGO (for LEGO® House).

Mark Woodbury was present, with a large group of colleagues from Universal (Universal’s Volcano Bay was also named for a Thea Award). Numerous supplier companies that had worked on awarded projects were also present in force, including Sally Corp. (for JUSTICE



LEAGUE™: Battle for Metropolis at Six Flags Magic Mountain in Valencia, CA) and Alterface (for “Bazyliszek,” Park Legendia, Poland).

TEA announces the Thea Award recipients in November, but the formal celebration and showcase take place the following year, and the annual TEA Summit and Thea Case Studies, followed by the 25th annual TEA Thea Awards Gala presented by Chimelong, will be held in Anaheim at Disneyland Resort April 11-13, with tickets going on sale by the end of 2018.

The TEA International Mixer was held at Hard Rock Live, Universal CityWalk, on the evening of Nov 13 and at the TEA Members Meeting on Nov 14, COO Jennie Nevin reported that the mixer had filled the house with some 2,000 attendees. Nevin also reported that TEA membership continues to grow at a steady rate, with increases over the past year taking place in all four international Divisions. The association is now more than 1,700 member companies strong, representing 52 countries. Michael Mercadante, who served as Treasurer for several years before accepting the presidential post, reported the association to be in excellent fiscal shape.



Lifetime achievement honoree Mark Woodbury with TEA COO Jennie Nevin at the Thea announcement event during IAAPA Expo

Shannon Martin of Color Reflections stepped up as TEA Western North America Division Board President, succeeding Tricia Rodriguez of Mad Systems; other Division heads stayed in place: Matt Barton of 7thSense Design (EME Division), Thomas Megna of Megna Entertainment (Asia Pacific) and Melissa Ruminot of Nassal (Eastern North America). • • •

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“Are you guys crazy?”

Roland Mack and Tom Mehrmann discuss bridging the cultural divide

by Joe Kleiman

For a number of years, it's been an annual highlight of the IAAPA Attractions Expo in Orlando to enjoy the Legends Panel curated by Bob Rogers of BRC Imagination Arts, giving us all a chance to hear from and appreciate some of the best and brightest in the world of themed entertainment design and attraction management. Rogers, of course, is a legend in his own right – a former Walt Disney Imagineer whose credits include the film in Epcot's France pavilion. The Founder, Chair, and Chief Creative Officer of BRC Imagination Arts, Rogers is also recipient of the TEA's Buzz Price Thea Award recognizing lifetime achievement, and inductee in the IAAPA Hall of Fame.

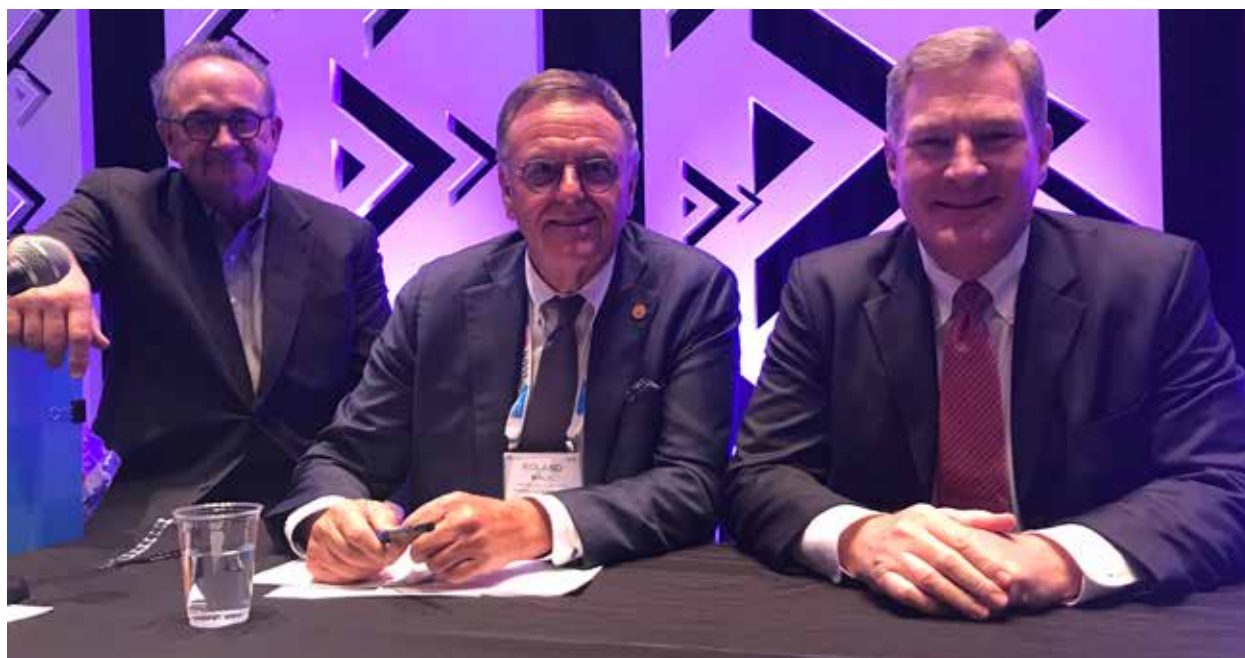
The 2018 Legends panelists were Roland Mack, owner of Mack Rides and Europa-Park, and Tom Mehrmann, former CEO of Ocean Park Hong Kong and the new President and General Manager of Universal Studios Beijing Park and Resort. Prior to Ocean Park, Mehrmann had been an executive with Knott's Berry Farm, opening

Knott's Camp Snoopy at Mall of America, and Vice President and General Manager for a number of Six Flags parks and for Warner Bros. Movie World Madrid.

This year, the Legend's Panel centered on ways that attraction designers and operators can reach across international divisions to attract, charm and unite visitors from different cultures. Rogers began by encouraging those in attendance to learn more about the panelists through the recent biography *Roland Mack: King of Fun* and Mehrmann's new book *Taming the Mouse*, both available online.

Enter the Mouse

One of the key points brought up with both panelists was how they dealt with the world's largest and most popular theme park company, Disney, entering their respective markets in Europe and Hong Kong. At the time of Disneyland Paris opening in 1992, Europa-Park had been in operation in Germany for 17 years. In a similar



Roland Mack (center) and Tom Mehrmann (right) are joined by Legends panel moderator Bob Rogers (left) Photo courtesy of Joe Kleiman

situation, Hong Kong Disneyland became the new kid on the block when it opened in 2005, competing against the nearby Ocean Park, founded in 1977.

Mack started out by mentioning how close Disneyland Paris is to Rust, Germany, the home of Europa-Park. “We first heard it was going to be in Barcelona and we were ok with that,” he said, “But when we heard that it was not going to be in Barcelona, we were less happy. Disneyland Paris is only one hour and 40 minutes from Europa-Park by the TGV train. When the park opened, we changed our product heavily.” Rather than succumb to the larger theme park operator, Mack discovered that he could learn from the trials and tribulations it went through, including employment, attendance and financial struggles during Disneyland Paris’ first few years of operation. “It’s been beneficial for us to keep the competition around,” he said.

Mack went on to point out that European customers to his park love European culture, and that the park has succeeded by working to unite its customer base by concentrating on shared likes and desires.

Mehrmann moved to Hong Kong in 2004 when he was recruited from Warner Bros. Movie World Madrid to oversee Ocean Park. “I was recruited because Disney was coming into Hong Kong,” he said, “Which is kind of funny because I was rejected by Disney when I applied with the company at age 17. Disney’s arrival made the government want to improve the quality of our park. We decided to focus on values that made us who we are - not to compete.” The strategy has shown strong results over time, with Ocean Park attendance only half a million less than that of Hong Kong Disneyland (5,800,000 and 6,200,000, respectively, according to the 2017 TEA/AECOM Theme Index; in the same edition, Europa-Park attendance is given at 5,800,000 and Disneyland Paris at 9,660,000).

“We were ‘distinctively Hong Kong, uniquely Ocean Park,’” Mehrmann said, “while Disney is an American entertainment offering that’s adapted on a local basis.” Mehrmann saluted his successor, Matthias Li, for being part of the team that devised the strategy and for maintaining it.

Under Mehrmann’s leadership, the park tapped into the collective memory of its guests for the park’s significance in their lives. Hong Kong culture is rooted in generational values, around which the park developed a unique offering to increase attendance – free admission on birthdays. The result was a significant increase at the gate.

Skirting the cultural stereotype

Rogers asked the panelists about something he observed in the early years of Epcot, to the effect that visitors tend to be most sensitive to stereotyping when it comes to how their own countries are represented, and less so in regard to others - leaving it to the operator to find a balance. “Visitors from Canada did not enjoy the outfits the Canadian staff wore, but they loved the German outfits,” said Rogers. He asked how a park can deliver on a cultural archetype, such as with costumes, theming, or architecture, without stereotyping a culture.

Mack shared that Europa-Park succeeds by the way it creates atmosphere, using architecture characteristic of the 15 European countries represented in the park. “But it’s important to remember,” he cautioned, “that you can never beat the original.” A theme park version of the Eiffel Tower, for example, won’t top the real thing in Paris.

Mehrmann discussed the transformation of Halloween festivities at Ocean Park. During the first two years of the event, which was introduced in 2001, the park ran a traditional Halloween event. “For the third year,” he said, “we added a local folklore character. By the fourth year, everything was fresh and new,” he said, with an emphasis on traditional Chinese folklore. The Halloween Bash is now a combination of Chinese and Western scares, utilizing the latest technologies. Annually, over 500,000 people attend the event each year.

Lessons learned (about food)

Rogers then followed by asking what issues they had experienced and learned from at their parks. Interestingly, both panelists responded with examples concerning food. For Mack, it was surprise at the poor response to serving authentic food of the region in each zone. “We had to come back to schnitzel,” he shared. “There might be differences in culture. 45% of our visitors are German.” He further observed, “Italians are afraid to ride coasters, but they’ll try the prototypes in our park. We all speak one language – fun & love.”

For Mehrmann, the first item on the agenda is to hire an executive chef right away. “When I joined the company, the food at Ocean Park was being handled by a third party – Maxine’s. We took the F&B in-house and were able to offer authentic, quality food, and set the price.”

Mehrmann experienced first-hand what happens when one underestimates one’s competition. When he was with Warner Bros. Movie World Madrid, he said that he and his management discounted the other theme park in



Madrid, Parques des Attracciones, whose parent company, Parques Reunidos, ended up purchasing the Warner Bros. park. When he came to Hong Kong, he says, “Disney discounted Ocean Park.” Now in Beijing, preparing to open Universal’s first resort in Mainland China, he said that he’s learned not to discount the local competition, such as OTC. “Don’t be too proud or arrogant,” he said.

Coming back to roller coasters, Mack related an irony of business regarding the “Time Traveler” roller coaster, which combines spinning cars with multiple launches. “My biggest problem is that it’s one of the best rides Mack Rides created and it’s at Silver Dollar City, not Europa-Park.”

IP: local or popular

Rogers asked the panelists about using licensed IP versus creating their own IP that caters to the local culture. Mehrmann related that with IP, it’s important not to call licensing people, whose job is to obtain money for issuing the license, but rather to call promotional people, who know what will work best in a market and how best to promote the product. For Mack, “The entire Europa-Park is IP.”

Referring to the Universal Beijing Resort now in the making, Mehrmann shared that “IP has resonated in China for some time. We have an advantage that in the park, we’re not stuck in any particular history, other than Universal’s 100+ year legacy.”

Mack also realizes the importance of cinema IP, having utilized filmmaker Luc Besson to pull in attendance from the French market with attractions themed around Besson’s *Arthur* and *Valerion* films.

Seek to understand

Rogers asked each of the panelists what the best leadership advice was they could give. For Mack, it was a message of self-sufficiency: “Don’t ask things from other people that you can’t get [achieve] on your own.”

Mehrmann said the most important thing is to “seek first to understand – to understand the why, the how, the cultural nuances. Understand what’s different, what the cultural values are. People don’t plan to fail. They fail to plan, and when all is said and done, all is said and done.”

The fire and the riot

Rogers asked the panelists about how certain crises had been dealt with at their individual parks. He asked Mack about the recent fire at Europa-Park that ignited during operating hours, destroying an entire themed area and a popular dark ride. Rogers wanted to understand how

the efforts of the park’s employees resulted in the park reopening 24 hours later. He commended the park’s employees for their amazing effort and asked for a round of applause for them.

“This fire was our biggest fear. But we have a wonderful relationship with our employees. Everyone came in (without asking) to help with the cleanup. It was amazing. We had around 28,000 people in the park that day and none were harmed,” said Mack.

On the so-called “Umbrella Revolution” – public demonstrations against Mainland China’s involvement in Hong Kong politics – Mehrmann related how “it created a massive disruption and disrupted visitation to Hong Kong.” Equally troubling is the fact that Ocean Park has a major animal component and the protests hindered some food deliveries for the animals. In order to bypass the blocked roads, some staff, including animal caretakers, remained at the park overnight to ensure the animals were taken of and guests would be welcomed in the morning. As a result of the “Umbrella Revolution,” Mehrmann said, “we had to create new controls for dealing with such situations in the future.”

Four simple words

Considering everything the panelists had shared about the challenges, surprises and risks that are part of the job of operating their parks in unique markets with international guests, Rogers ended the session by asking, with a smile, a single question: “Are you guys crazy?”

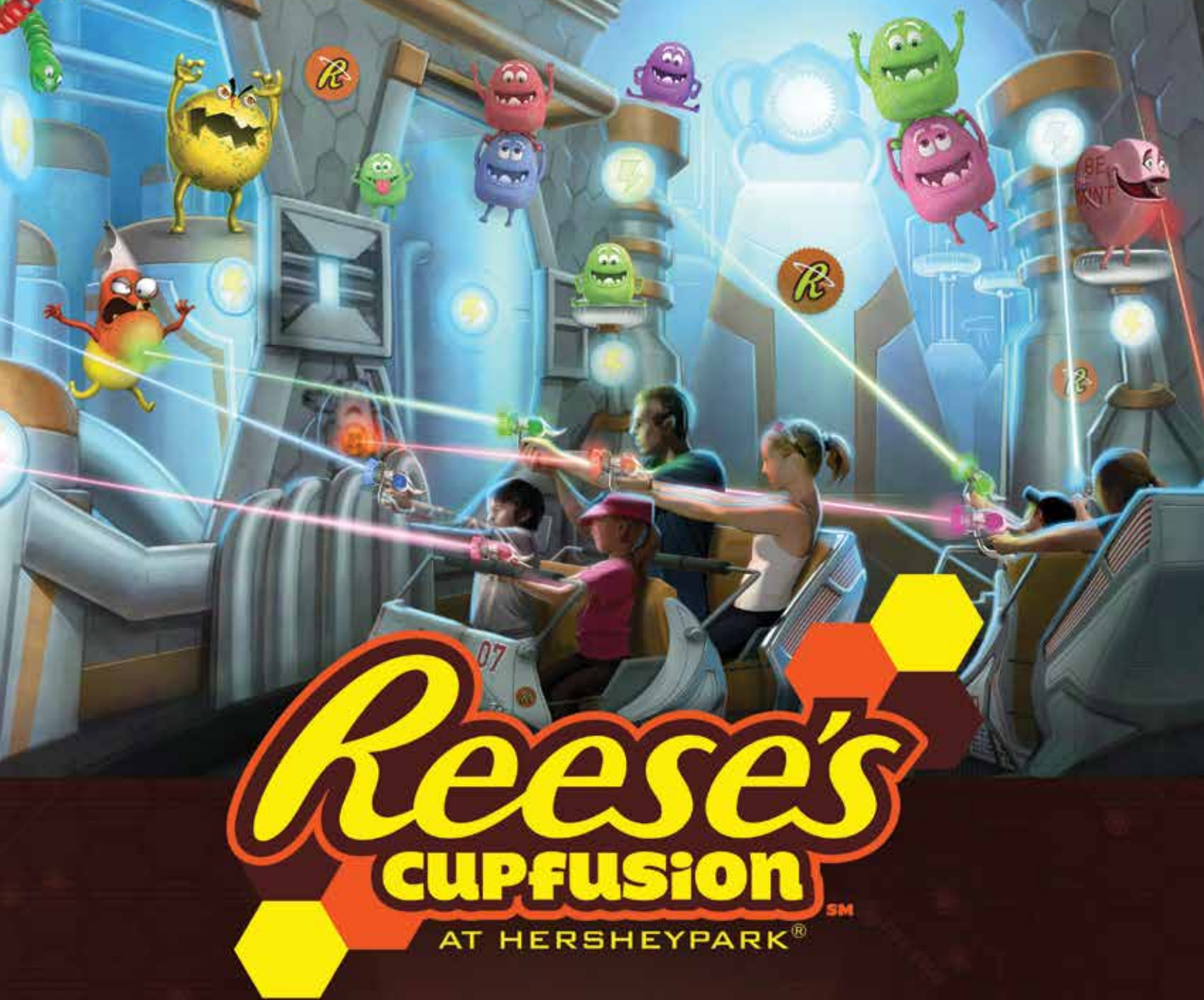
Mack told the audience, “I am crazy – crazy for being passionate and caring. There’s always a use for something. I’ve never, ever seen something so bad that it could not be good for something else. Most important, work for me is fun.”

Mehrmann also admitted to being “crazy,” in the sense that he’s “curious, have a sense of humor, a sense of adventure, and like to do new things. I’m always on the lookout. Jim Pattison once said, ‘Opportunity doesn’t make a reservation.’ So I seek and pursue opportunities, knowing that luck is the residue of design.”

The books

Roland Mack: *King of Fun* is available in hardback and e-book from <http://shop.europa-park.de>

Tom Mehrmann’s new book, *Taming the Mouse*, is available in hardback, paperback, and e-book from a variety of online booksellers. • • •



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VR activities are a cornerstone of Two Bit Circus. All photos courtesy of Two Bit Circus

When maker culture met the LBE

Two Bit Circus introduces its Micro-Amusement Park

By Joe Kleiman

Location Based Entertainment (LBE) is making a resurgence with new venues branded to film franchises, television networks, and even sports teams. In downtown Los Angeles, the Two Bit Circus Micro-Amusement Park is a unique example of LBE that is both an homage to the great game-based facilities of the late 1990s, yet relevant to today's patrons.

This new approach to LBE has been undertaken by Los Angeles firm Two Bit Circus, founded by Brent Bushnell (son of Atari and Chuck E Cheese founder Nolan Bushnell) and Eric Gradman. "We're both technologists," says Bushnell, "and both Eric and I are trained circus clowns. We wanted to take things that we're passionate about and apply them to something new."

The two had worked together on a number of interactive elements for promotional events over the years, including

major sporting events and corporate parties, including what Bushnell described as "a cloud that rains tequila." Bushnell points out one of the major issues with this business strategy: "One of the things that's a frustration is that you spend six months building for Comic-Con, and all of sudden, Comic-Con is over and on average, that stuff goes in the trash."

To design and run the Micro-Amusement Park, Bushnell and Gradman recruited specialists in technology, film production, and attraction and hospitality. Among them is Kim Schaefer, former CEO of Great Wolf Lodge, who was appointed President of Two Bit Circus in May 2017, where she oversees the company's LBE business (Two Bit Circus is involved in other endeavors, including a non-profit educational foundation centered around STEAM).

“I spent 17 years working in the waterpark industry,” says Schaefer. “This is a different experience for me, but it utilizes many of the same ideas. I have a general manager who came from Dave & Busters, who understands how to operate this kind of facility on a day to day basis, and we’ve really designed this place in many of the same ways we would one of the resorts – you can walk around and watch, or you can play whatever interests you – it’s up to you.”

Something old, something new

The Two Bit Circus Micro-Amusement Park pulls from the great LBE concepts of the 1990s, such as having different themed areas, each with its own unique activities (DisneyQuest); individual yet interlinked game pods (Metreon’s Airtight Garage); and an emphasis on dining and libations as part of the gaming experience (Dave & Busters, GameWorks).

At the same time, the Micro-Amusement Park pulls from modern trends – the arcade salon and maker cultures, escape rooms, bar trivia, and virtual reality.

Schaefer points out the importance of keeping the audience engaged. “You can be sitting at the bar and someone will come and touch you on the shoulder, inviting you on a quest.” The 40,000 square feet of space

located in the Arts District of Downtown Los Angeles is guided by a number of principles, chief among them creating a sense of discovery and encouraging socialization. These are not only concepts ingrained in the staff, but they exist in the physical framework of the space as well.

Hidden adventures and quirky machines

Gumball machines release clues to either long or short quests, utilizing “Easter eggs” strategically hidden throughout the space. In another part of the building, a table-based video game built for six players requires them to first compete to determine what game to play before playing the game itself. “It’s great,” says Gradman, “Because it gives an opportunity for different people to meet each other – and when you’re having fun together, you’ve made a new connection.”

The Micro-Amusement Park is divided into five main components, with much of the scenic fabrication produced in a design-build process by Weber Group [See “Weber Group: Meet the Partners,” InPark issue #74, <http://www.inparkmagazine.com/weber-group-meet-the-partners/>]. The Midway provides an eclectic mix of gaming with unique controllers, such as giant track balls, alternating with classic Skee-Ball machines and unique photo experiences. The Midway is also home to

The Midway includes a selection of experiential games and attractions.



Gearmo, a robot bartender, who makes different varieties of drinks. The various ingredients on his wheel included different varieties of alcohol, chocolate syrup, and Valvoline (“Robots do drink Valvoline,” Bushnell points out). Story Rooms offer three unique experiences – Two Bit Circus’ proprietary starship bridge simulator “Space Squad in Space,” “The Lost City” escape room, and Starbreeze Studios’ multi-person VR experience “The Raft,” for which Two Bit Circus holds the exclusive US license. Each activity is designed for 3-7 players.

A menagerie of VR options

The Arena is the Micro-Amusement Park’s VR area, which includes a number of different type of VR experiences. In addition to tethered units for single player gaming and a tethered four-person arena, interlinked pods are where guests can experience an updated version of Atari’s classic video game “Battlezone.” “We have the exclusive license,” says the company’s Chief Creative Officer, Nancy Bennett, a former film and television producer with an extensive background in 2D, 3D, and 360 VR creation, who became one of Two Bit’s first hires in 2012. “We took D-Box seats and at the end of the armrests, we added controllers, so you’re getting the full motion and control experience while playing.”

In addition to The Arena, VR can be found in four private cabanas, each with a single tethered VR unit and a projected image allowing the rest of the party to share in the experience, and in the full-scale Asterion VR Virtual Arcade maze, currently offering “Rabbids: The Really Big Maze” from Ubisoft and “Minotaur Maze” from Asterion VR (a compact version of the Asterion VR maze is distributed by Triotech and was showcased at the recent IAAPA Attractions Expo in Orlando). The Micro-Amusement Park is also one of the first

commercial properties to feature the Birdly VR flight simulator, distributed by D3D [See “Truly, virtually, Birdly,” InPark issue #70, <http://www.inparkmagazine.com/truly-virtually-birdly/>]. “We use the HTC Vive,” says Two Bit’s Head of Production, Aaron Pulka, a former Imagineer whose credits include the “Aladdin’s Magic Carpet Ride” attraction at Epcot and DisneyQuest. “We’ve found it gives a great image and we don’t need as much computing power as with other headsets.”

Reinventing trivia night

Virtual reality experiences only comprise around 30% of the offerings. The Arcade features new twists on traditional arcade games, and features a few classic arcade cabinets to compliment them, while Club 01 utilizes touch screens to provide a fresh spin on trivia night. Different shows are available, involving one revolving around wine tasting. “It’s boring when you go to a wine tasting and someone else is telling you what you should be tasting,” says Gradman, “Here, we quiz the audience to see what they think they’re tasting, then we can automatically tabulate and compare results on screen, making it more fun. And it gets even more fun the more you drink.”

The LA location is the first of many planned. According to Schaefer, “We’ll be able to monitor what works and what doesn’t. We have proprietary technology that allows us to track travel patterns throughout the facility through individualized RFID chips in each redemption card.” This knowledge will be used in the development of future facilities, which Schaefer visualizes in being within the 25,000 – 35,000 square foot range. The company is currently in talks with a number of leading malls and tourist destinations for new locations as it creates the next chapter in Location Based Entertainment. • • •



The Arcade area features a selection of vintage and modern games.



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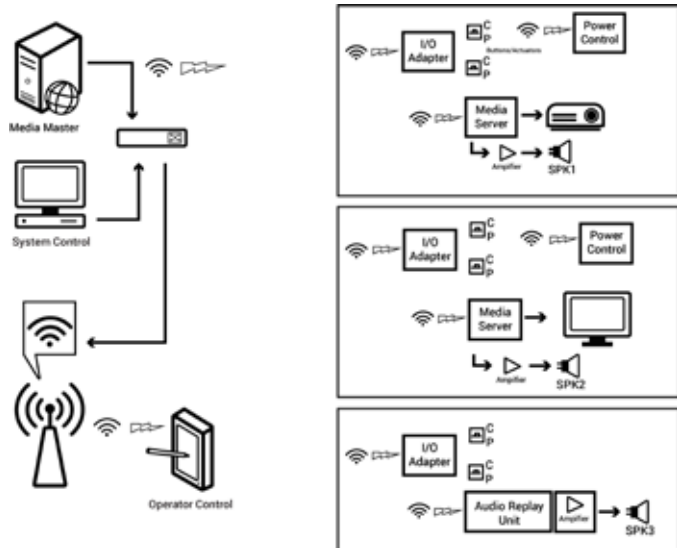
Just prior to the IAAPA Expo in Orlando, Mad Systems, an AV systems designer and integrator based in Southern California, unveiled QuickSilver™ and LookingGlass, described by Mad Systems founder Maris Ensing as “a complete AV system with high flexibility at a low price point.” According to Ensing, low infrastructure requirements produce significant savings. “Very few wired links are required, which in turn nearly eliminates the requirement for conduit and cable installation,” he says. “The client can put more of their budget toward other elements and experiences.”

InPark reported on the launch [See “Mad System’s Paradigm Shift,” InPark issue #75 (<http://www.inparkmagazine.com/mads-paradigm-shift/>)] and revisited with Ensing for the latest updates.

Remind us of the basics of QuickSilver™

QuickSilver™ is a new way of designing and building audiovisual systems. QuickSilver™ currently comprises seven elements (although we are working on additional extensions):

- Micro-miniature WiFi controllable media server, hi-def or 4K capable, from an internal SD card with support for numerous audio or subtitle-based languages. Plug it into a monitor or projector and it needs no further attention.
- Micro-miniature audio server with optional, built-in 30W stereo amplifier that performs all expected audio replay tasks, with the added capacity to generate realistic sounding, non-repeating, randomizing audioscapes (instead of monotonous, looping audio).
- Minuscule sensor/button/LED/input/output adapter that’s easy to conceal, and allows up to a dozen button or sensor inputs, can drive LEDs for feedback and receive other input signals without being wired back to the equipment it controls.
- PC-based show control system that ties the various elements together and is capable of controlling numerous other pieces of equipment such as lighting and mechanical elements.
- Media storage unit that allows the end user to simply update the master media files while letting the system handle the rest.



All images courtesy of Mad Systems

- Mesh-based, wireless power control network that allows the system to be turned on and off automatically.
- Solid, commercial quality WiFi backbone

All the media is kept local to the device, so WiFi is only used for control signals, and to update the media. We have updated our diagram (shown above) that shows how the QuickSilver™ system is fundamentally different from existing AV systems.

We continue to expand the system’s capabilities; QuickSilver™ was recently updated with another small unit (about 25x25cm) with four HDMI video outputs facilitating output of four independent media streams.

In terms of control, the client can handle individual components or groups of components using a tablet, smartphone, buttons, or just about any other standard method of control. For example, at a museum using QuickSilver™ a docent would have the ability to mute exhibits to isolate one for a group to focus on. The capabilities also allow the content in an exhibit to quickly switch to ‘kid-friendly’ mode, or even in a different language.

The real change starts when you look at some of the things this makes possible outside of the immediately obvious. For instance, the limitations of gobo projectors

and framing projectors, and the unrealistic output from water and fire projectors; these limitations are some of my pet peeves, and QuickSilver™ can make them go away. To start at the beginning - we have a low cost medium res laser projector that's good for 20-25,000 hours placed on a balljoint mount in our lab, with an added QuickSilver™ server. Now we can run a fixed gobo as we've all seen before, but we can also put moving video on there to make it a lot more interesting. Not only that, if we know we have a client renting the space tomorrow and another one the day after, we can pre-load their logos and just put them up on the day, providing a level of customization that a traditional gobo projector would make very hard and a costly exercise. Instead of a traditional framing projector, which limits us to four moveable blades and a focus setting, we can use that same video projector, and projection map any shape, or 'fake' roving searchlights, and limit those to the shape of the object we're lighting up. For water and fire lights, we'll again use the same low cost projector, but load a fire or water video so that it looks exactly like what we want it to look like, rather than living with the results of a bright light behind two rotating pieces of glass. This is what makes this unique and this is why its impact goes well beyond traditional AV.

What venues is this ideal for?

Really just about any venue that uses AV. Museums, visitor centers, family entertainment centers and theme parks are obvious candidates, but we think these costs and capabilities will also attract attention for retail, advertising, and business marketing forums such as trade shows where there is a need for constant customization. Since you only need power, QuickSilver™ saves time and labor on installation. In very simple situations, it's even possible to pre-configure free-standing units which makes installation painless: you stick a video server into the HDMI input of a monitor or projector, Velcro an audio unit on the back of a speaker, and attach a button interface to the back of a motion sensor. This is a very different way of installing an AV system!

Another area where things become simpler and more versatile is projected graphics panels (instead of printed). The first benefit is the ability to deliver kid-friendly content to children, and adult-level information to adults. Projection gives you versatile tools for handling multiple languages and supporting ADA requirements as well. Projection is also in line with changing preferences – in the days of smartphones and tablets, we're moving away from copious amounts of text. Flexible, dynamic graphics are the way forward. We are currently working on a new visitor center that has no printed graphics at all - one of the exhibits talks about 'types of water,'

where in a traditional design we'd end up with a list of 'drinking water', 'salt water', and so on. In this case, we have a nice moving graphic that presents each type of water using moving imagery – an educational element with memorable, multi-sensory appeal as opposed to a list of items. This is also where QuickSilver™ provides for something that is truly unique: we have instances where we have two graphics panels adjacent to each other, and we will be using one single projector to project both, thanks to the capabilities of the QuickSilver™ server. The left graphic is run as one video instance (with the left audio channel) and the right graphic is run as the second instance (with the right audio channel).

How does QuickSilver™ work in regard to the Facial Recognition system?

Our patent pending Facial Recognition based media delivery system is really a separate layer; it can be used with a QuickSilver™ system or with another AV system or interactive exhibit that meets the technical requirements. Facial Recognition allows visitors to indicate their preferences without having to scan anything - all they need to bring is their face (or, oddly enough, an image of a face as we've allowed for that to trigger the system too).

QuickSilver™ was one of the triggers that made us, at Mad Systems, come up with the (patent pending) Facial Recognition overlay. The flexibility of QuickSilver™ had us try a number of different methods of activating all of its capabilities, and after we looked at previous generation options such as barcodes, RFID and IR based triggers, we realized that none of those were adequate for a next generation system like QuickSilver™. Once the system is in, it can be used for things other than media delivery: you could trigger different gaming options, use it for ticketing, VIP lines and even to measure parameters such as dwell time (some of which are delineated in our patent pending LookingGlass Concierge system).

As far as exploring all the possibilities, here's how we're testing Facial Recognition in our office. We recognize staff members, known clients and known delivery folks, and greet them. The Facial Recognition system kicks off a text-to-speech synthesizer driven by the show controller (the synthesizer is running on one of the standard QuickSilver™ media replay units) to welcome people by name. We are running demonstrations using either our own faces (live video) or celebrity pictures mounted on sticks to trigger events, so showing Neil Armstrong's image shows a video clip of his famous "a small step for man" speech, etc. It's a huge paradigm shift in the way that you do things, and the nice thing is that the Facial Recognition layer feels completely comfortable and natural



to people - there are no buttons to press, nothing to scan, nothing to be confused about.

Just look at the exhibit, and things happen – and since we know who it is, we can tailor media content accordingly.

Tell us more about your new LookingGlass technology and how it fits with the others.

Think “customer service.” Mad Systems’ patent pending LookingGlass Concierge system is a layer on top of the Facial Recognition system. Once you can recognize people, it’s obvious that there are a variety of other things you can do to improve the visitor experience, and that is where the LookingGlass Concierge system comes in. Here is one example: A family with children enters a museum or theme park. If the parents attempt to leave the venue without the children, or the kids try to leave without the adults, an alarm is triggered. This function of LookingGlass provides a level of safety and security for the guests, and from an operator viewpoint, it prevents the venue from being used as a daycare center. My next example is in a venue where visitors are filmed or photographed as part of an experience. For example, pictures taken on rides, or videos being recorded in a kid’s TV studio in a children’s museum. LookingGlass keeps track of all of those videos and pictures wherever they are captured, so that when one of the family members walk into the gift store, it will display all of the family’s images and put them onto a memory stick (or a web server), providing a level of convenience for the guest. It’s all about improving customer service, even to the point where LookingGlass can improve your overall experience by having your favorite drink ready when you walk into the venue’s coffee shop, or use other information you have

volunteered to really personalize your experience. There are a host of other things that LookingGlass does, detailed at madsystems.com.

You are already using the technology at your office. How are you implementing it?

We’re using these systems in a way that emulates how our client community would typically use them in their venues. So, we have over a dozen demo stations set up in our lab that show QuickSilver™ and Facial Recognition driven media delivery and a certain aspect of the system’s capabilities. We have a representative multi-camera Facial Recognition system running that is interfaced with one of our TeaParty show controllers. The show controller in turn communicates over a WiFi link to various QuickSilver™ components, and also ‘talks’ to a couple of interactive stations to show some additional capabilities. For example, we’re looking at automatically detecting the height of people standing in front of an interactive to determine if the buttons on a touchscreen should be lowered for easier visitor access, a feature that can be really beneficial for ADA needs. Another one of our stations is specifically set up to show how you can use QuickSilver™ to bring graphics and signage alive, for instance by combining a QuickSilver™ video server with a low cost ultra-short throw laser projector – enabling all the potential benefits of projected graphics (as mentioned above).

You rolled out the tech for the IAAPA Expo. What has the response been?

Remarkable actually, and all of it very positive. We had a number of designers, potential clients and others who looked at what we are doing and realized just what an incredible change this will make in our markets. Several professionals we spoke to were very clear that it pushes the bottom of the traditional marketing triangle down by providing more AV for less, thus enabling smaller venues to consider AV as part of their repertory, and that it pushes the top end up by thinking about full Facial Recognition capabilities combined with LookingGlass. They were very clear that rather than just ‘yet another AV system,’ this new technology combo makes for a fundamental change to the way we do things.



IAAPA was a lot of fun for us. We had a chance to be able to introduce something drastically new and different – something we feel is a breakthrough – and have it very well-received. Obvious questions were related to privacy and the ‘Big Brother’ concept, but an explanation of how the system actually works and its safeguards alleviates those types of concerns.

How do you see this suite of technologies evolving in the near future?

Since this is developed in-house, we’re seeing four primary paths that are driving further development. The first one is that we’re working on our basic wish list, both in terms of additional features and capabilities, as well as a roadmap of additional components.

The second one is that we’re learning as we’re using these devices. For example, we have a project that has us build an audio replay unit into an antique wind-up horn type gramophone player. We decided to add a capability to allow it to control some outputs so that we start the record platter motor that we retrofitted to the unit just before the audio starts, and we stop the motor when the audio finishes. These are minor changes, but it’s nice to be able

to just do things like that to make our projects even better. Needless to say, our client loves it.

The third one is feedback from clients and potential clients. We’re finding that people ask us questions along the line of ‘could we do this’ which make us re-look at the system to see if it makes sense to add some of these things as ‘standard’ capabilities.

Number four is probably one of the most obvious: new technology is coming out all the time that keeps us on our toes, but at the same time allows us to enhance the product – for instance, increases in the amount of processing power that is available. It is clear that any limitations of today will most likely evaporate tomorrow, and expand the capabilities we can offer our clients.

How can people experience QuickSilver™, Facial Recognition based Media Delivery and the LookingGlass Concierge system for themselves?

Give us a call, and make an appointment. Our lab at Mad Systems is ready for demonstrations. In addition, the first installations will deploy during the first quarter of 2019, and we will announce their locations as they come online. Stay tuned! • • •

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WWA 2018 shows waterpark markets are diverse and strong

By Martin Palicki

More than 1,600 attendees from five continents gathered in Las Vegas last October for the 38th Annual Symposium & Trade Show of the World Waterpark Association (WWA). Show organizers touted that of the 1,600, some 350 were first-time attendees, of whom many are connected to waterpark projects in planning or development around the globe.

“WWA was an extremely busy and productive show for us, with lots of leads to follow up on,” said Sam Baker, Director-Global Development for SR Scales by SR Instruments. Baker has been participating in the show for many years, exhibiting a line of high-quality scales specifically designed to help waterslide operators load rafts within safe weight limits (without embarrassing guests). Baker reported being impressed with the number of attendees from different segments of the waterpark market, along with the general quality of leads, at the 2018 show.

Attendees came not only from waterparks, but from an expanding range of venues adding water attractions to their offerings. Municipal entities, for instance, are increasingly turning to splash pads, water play structures and wave pools to diversify their recreation offerings. Internationally, waterparks continue to be a desirable asset for developers, and indoor waterparks find new niches in under-served markets.

The trade show spanned two days and attracted 225 vendors from a wide spectrum, from waterslide manufacturers and food vendors to park equipment providers. Of particular note was a host of ticketing and wristband vendors providing RFID solutions - hot on the heels of Volcano Bay's TapuTapu queue reservation system launched last year. It's a popular topic for waterparks, as guests start to demand solutions for lengthy queues similar to what they find in theme parks.

Education and networking opportunities round out the week

A key focus of this year's WWA Show was to create intersection points between the many different constituents within this vibrant industry, and the

educational sessions are a big part of that. “An important element of the WWA Show is our commitment to community,” said Aleatha Ezra, Director of Park Member Development, WWA. “We seek to start conversations between individual people. When people share what's working and what's not with others in the industry, they walk away smarter, stronger and better equipped to tackle new challenges in the coming year.”

The WWA Show's educational program centered on key topics: guest safety, operational excellence, high quality customer service, and top-line employee training, among other areas. “In 2018, the number of people attending our educational sessions increased by close to 30 percent,” said Ezra. “In addition, attendance in our workshops and certification courses more than doubled.”

This year, WWA offered two keynote addresses. Mark Scharenbroich, an author and member of the National Speaker Association's Hall of Fame, spoke on how to be effective in making meaningful connections in one's professional and personal life. Customer Experience expert David Avrin, CSP, focused on how customers today expect immediate answers, 24/7 access to information, expedited delivery and buying with one-click. “A great customer experience in today's world is more than merely providing friendly customer service; we also must understand how our customers want to do business with us and give them the experience they want - at every point of contact,” said Avrin.

In addition to complimentary lunch hours as well as a hosted happy hour on the trade show floor, attendees traveled to Wet'n'Wild Las Vegas for the WWA Annual Reunion Party. Behind the scenes tours were available for guests, along with a selection of tasty nibbles and beverages.

“The Annual Reunion Party has been a tradition of the WWA Show for decades,” said Ezra. “Wet'n'Wild Las Vegas provided the perfect environment to bring our attendees together for food, fun, laughs and plenty of thoughtful conversations.”



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Building a cartoon network

Cartoon Network invites its fan base onto LBE platforms;
inaugural hospitality venture opens summer 2019

By Judith Rubin

About three years ago, Erik Resnick, SVP – Business Development and Commercial Strategy for Cartoon Network, Boomerang and Adult Swim, began to research the Location Based Entertainment marketplace to identify where Cartoon Network could best bring value to potential partners. His first step was to bring in industry veteran George Wade of Bay Laurel Advisors to help him navigate this new space.

Cartoon Network had enjoyed great success with high profile fan events at Comic-Con, South by Southwest® and Atlantis as well as other major festivals and gatherings, and believed their fans would love additional opportunities for interactions with their favorite Cartoon Network characters.

The quest is becoming a reality. As of Summer 2019, fans of Cartoon Network shows and characters such as *Adventure Time*, *Ben 10*, *We Bare Bears* and *The Powerpuff Girls* will be able to vacation surrounded by them at the Cartoon Network Hotel. Cartoon Network, part of global media giant Turner, a WarnerMedia

company, has partnered with Parques Reunidos and Palace Entertainment, owner/operator of some 60+ parks and amusement facilities around the world, to develop the Cartoon Network Hotel, a 165-room, destination hotel on nine acres in Lancaster County, Pennsylvania.

The unique, themed hotel, now in development, will complement other vacation and recreation options in the area. The site is very close to Dutch Wonderland Family Amusement Park (operated by Palace), a half hour from Hersheypark, and just a few hours from the large mid-Atlantic cities – Philadelphia/Baltimore/New York/DC.

LBE initiative

The Cartoon Network Hotel is the flagship project of Cartoon Network's domestic LBE initiative, led by Resnick to strategically expand its content delivery platforms and give fans new ways to enjoy the brand's shows and characters in the physical world.

With the new hotel less than a year from opening, the initiative is gathering steam with theme parks and



The Cartoon Network Hotel is scheduled to open in 2019 in Lancaster County, PA All images and photos courtesy of Cartoon Network

attractions, waterparks, FECs and more all within the realm of possibility for new avenues of real-world immersion into Cartoon Network IP. “We are taking a very selective approach, wanting to deliver the best experiences while working with best-in-class partners,” said Resnick.

To these future partnerships, Cartoon Network brings a rich portfolio of content, an international community of dedicated fans and a robust consumer products group that currently brings in over \$2B in annual retail sales. These assets are an excellent fit with LBE platforms, which have largely been untapped in North American markets.

The overall initiative represents a global company strategy to establish a licensing presence in LBE markets around the world. There are teams in Asia Pacific (APAC), Europe/Middle East/Africa (EMEA), and Latin America (LATAM); and these international divisions have enjoyed great success with high profile projects around the globe. The Cartoon Network EMEA division opened IMG World Dubai in 2016, while its APAC team opened Amazone Water Park in Thailand in 2015 and has recently announced new partnerships with Riverside for its Six Flags Theme Parks in China, Star Cruises and for a waterpark destination in Bali.

For over 25 years, Cartoon Network has touched multiple generations with its stories and ever popular characters such as *Ben 10*, *Blossom*, *Bubbles and Buttercup*, *Steven Universe*, and *Jake and Finn from Adventure Time*. In those 25 years, the network has been a major force in pop culture and has achieved a huge presence on digital and mobile platforms. So, while relatively new to the LBE sector, Cartoon Network is no stranger to the licensing business and to multi-platforming. “Today, the guest has multiple touchpoints for connecting with the IP and any of those touchpoints could be a first contact point,” said Resnick.

Quality fans and other assets

Cartoon Network fans don’t just sit in front of the TV. The key demographic served is children ages six to 11, and (according to Cartoon Network) these kids are not just viewers, they are Fans – active, loyal and engaged. The material speaks to them in a voice that is relatable, authentic and empowering. They identify with the energetic, diverse characters in the shows, and they actively interact with the storytelling across a wide range of digital and social media platforms.

Resnick describes Cartoon Network’s internal creative team including show runners, concept developers, writers and animators as “young-imaginative and highly collaborative,” and the culture of the network’s creative

teams in Burbank and Atlanta as “artists first.” Cartoon Network storytellers are already comfortable on multiple platforms, including broadcast, cinema, gaming, video on demand, social media and VR. Their ongoing, active engagement with the highly engaged fans of their work makes them promising and creatively motivated partners for building new experiences that are compelling, authentic extensions of Cartoon Network IP and digital assets. “Our LBE partners will be able to lean on Cartoon Network creative and immersive storytelling resources and collaborate with them, which is already happening on the hotel project,” Resnick said.

Meet Erik Resnick

Erik Resnick has been with Cartoon Network since 2001. As he leads the charge into the LBE sector for Cartoon Network USA, it is part of Resnick’s responsibility to focus on new business strategies and outbound relationships. His track record as an innovator with the network includes being one of the executives involved in launching its Boomerang premium subscription streaming service. Launched in April 2017 as a partnership with Warner Bros., the Boomerang service offers what is ranked as the largest animation library of any streaming platform, with over 3,200 titles and 27 complete series. Resnick also took the lead on VR LBE business strategy and partnerships for Cartoon Network. *We Bare Bears: Food Truck Rush*, which held a three-month exclusive run at Family Fun Center in the greater Seattle area, was the first Cartoon Network VR LBE experience brought to market in partnership with AiSolve.

“Cartoon Network needs to be at the forefront of new technologies and businesses, and navigate new emerging business sectors,” said Resnick.

To step up as an effective leader of the LBE initiative, which is a new branch for Cartoon Network, Resnick has studied the sector and engaged consultants including George Wade of Bay Laurel Advisors, a 35-year veteran in Location Based Entertainment development and a former Senior Vice President at MGM Studios.

Resnick and members of his Cartoon Network USA LBE team will be at the IAAPA Attractions Expo in Orlando to meet and network with potential partners.

Contact: CartoonNetworkLBE@turner.com.

Experiencing Cartoon Network in the physical space

Why begin with a hotel? According to Resnick, that is simply where things happened to click in the first stages of this endeavor. “This is our first,” he said. “We have been selective in the projects we undertake with a clear focus on quality fan experiences. There will be others for the domestic fanbase; whether a theme park land, cruise ship, restaurant, dark ride, LBE or other engaging, fun activities and environments. What concerns us is how we impact our fans, how they experience the brand and who we partner with.” Conversely, why **not** begin with a hotel? As Resnick points out, “Lodging is simply part of

the equation now when it comes to guest expectations. The hospitality industry has been going through its own evolution where experiences are of great importance. And Cartoon Network’s characters will be an excellent vehicle to deliver great experiences.”

The operator, location and type of facility were all a good fit for Cartoon Network and its goals. “We want to play in this space, to partner and get products out there that will connect with fans,” said Resnick. “We were looking for a high-quality operator that had scale. This is a first step with Palace and with the hope it will lead to a broader relationship.”

Meet the IP

In 25 years of creating IP that has become, in the words of Erik Resnick, “part of the zeitgeist,” here are Cartoon Network summaries of shows offering IP that may be of particular interest for LBE platforms:

Ben 10

Now in its second season, and renewed for season 3, Ben, cousin Gwen and Grandpa Max are ready for action that will be loaded with epic transformations, never-before-seen aliens and foes, and with high-energy vehicles to kick hero-time into maximum overdrive. New episodes from the current season, including a half-hour special, will introduce the newest alien trying to invade Ben’s world – Shock Rock, who is looking to conquer the world and drain the planet of energy and resources.

- Ben 10 remains Cartoon Network’s #1 property with lifetime revenue of over \$5B globally.
- Over 10,000 stores are now carrying Ben 10 toys in the US, including national, regional and specialty stores. 2018 carriage is over 25% of 2017.
- Ben 10 was a Top 5 toy brand in most key territories in 2017.
- Licensees include global master toy partner Playmates, Outright Games and a current QSR with Sonic Drive In.



Powerpuff Girls Pop-up Shop, New York City, November 2016

Powerpuff Girls

As the original ambassadors of girl power, the iconic brand has been an inspiration to generations of girls and young women

since its initial launch in November 1998. From the moment Blossom, Bubbles and Buttercup started to save the world before bedtime, they were more than characters on a show, but a global phenomenon with a message of empowerment that continues to resonate today.

- Beginning November 2018 and into 2019, Cartoon Network will celebrate the 20th Anniversary of *The Powerpuff Girls* with new licensees, events and collaborations.
- *The Powerpuff Girls* is one of the top-grossing Cartoon Network brands of all time, with over \$3B in retail sales generated since its debut.

Adventure Time

Cartoon Network’s Emmy and Peabody Award-winning original animated series, *Adventure Time*, introduced viewers to unlikely heroes Finn and Jake, buddies who traverse the mystical Land of Ooo and encounter its colorful inhabitants. The best of friends, our heroes always find themselves in the middle of heart-pounding escapades. Finn, a silly kid with an awesome hat and Jake, a brassy dog with a big kind heart, depend on each other through thick and thin. *Adventure Time* was created by Pendleton Ward and produced at Cartoon Network Studios.

- Through its ten seasons on air, *Adventure Time* appeared on all Cartoon Network feeds around the world, across 27 feeds in 26 languages, covering 192 countries and 370 million homes.
- The series has received significant critical acclaim and awards wins, including a Peabody Award, 15 Emmy nominations with 8 Emmy Award wins, two consecutive BAFTA Awards, a Common Sense Seal for TV and more.
- *Adventure Time* has a massive – and highly-engaged – social network with over 17 million Facebook fans alone
- *Adventure Time* has over 100 licensees globally, with product in all categories and all channels of distribution

Rolf Paegert, Chief Operating Officer, Palace Entertainment, said, “When we began searching for our theme, we knew it had to be something no one else has created. We were looking to offer something completely unexpected to our visitors. We wanted to create a space where families feel comfortable and will be entertained in magic moments. Cartoon Network’s properties are just right for this space. Their characters and theming are the perfect fit.”

As it turns out, a hotel offers many ways to play and engage with Cartoon Network content in the physical space, with the potential to maximize per cap spending

and inspire repeat visitation. “Thinking of hospitality as an immersive experience, there are so many different kinds of touchpoints and experiences possible,” said Resnick. “This is our opportunity to play in the LBE space, to fulfill everything from the brand side and have it reveal itself in this hotel. A hotel has many different areas in which to deliver experiences: the lobby itself offers a unique arrival experience; there are guest rooms, the pool area, food and beverage, entertainment options... We get to touch a lot of different things. Everywhere the guest goes, they should have a Cartoon Network experience, eating, sleeping and playing. It’s going to be different from traditional entertainment licensing.” • • •



Cartoon Network fans pose with the Steven Universe X Voodoo Doughnuts Doughnut Wall, Universal Studios CityWalk (CA) January 2018

Steven Universe

Created by Emmy and Annie Award-nominated writer, artist and The New York Times bestselling author Rebecca Sugar and produced by Cartoon Network Studios, *Steven Universe* is hailed for its inclusion and lauded by The Verge as “powerful, necessary fiction.” Cartoon Network’s three-time Emmy-nominated series follows Steven, the “little brother” to a team of magical guardians of humanity – the Crystal Gems. Steven may not be as powerful as the Crystal Gems. Or as savvy. And he may not have much control over his powers. They originate from the Gem in his belly button. But that doesn’t stop him from joining Garnet, Amethyst and Pearl on their magical adventures and somehow finding a way to save the day!

- Cartoon Network has entered in a two-year global partnership with Dove around *Steven Universe*. The partnership with the Dove Self-Esteem Project includes original content from series creator Rebecca Sugar, fan events (San Diego Comic-Con), industry events (Cannes Lion) and other activities.
- *Steven Universe* Soundtrack Volume 1 launched on all digital platforms for download and streaming June 2, 2017. The album debuted across 6 Billboard charts including Billboard Top 200; and it landed at #1 across iTunes Soundtracks, iTunes Trends and Google Play Top Albums in addition to #2 on iTunes Top Albums and #3 on Amazon Paid Music.

We Bare Bears

We Bare Bears is about three brothers trying to fit in and make friends...which can be kind of hard to do when you’re a bear. Grizzly, Panda and Ice Bear are fairly savvy about the modern world: they’re masters of the selfie, fans of the food truck, and chasers of Internet fame. Yet, they have a lot to learn about the trendy residents that surround their humble Bay Area cave. Grizzly, the oldest bear, will lead his younger brothers, Panda and Ice Bear, with endless optimism that will only result in disaster, some of the time. *We Bare Bears* is created by Annie Award-winner Daniel Chong and produced by Cartoon Network Studios.

- Awards for *We Bare Bears* include 2018 Annie Award winner for Best Animated Television/Broadcast Production for Children; 2017 Kidscreen Award winner for Best Animated Series and Best Writing; 2016 BAFTA Children’s International winner; and Young Amsterdam Audience Awards 2014 for original short at KLIK! Amsterdam Animation Festival, where it was screened as part of the Cartoon Network Next Generation showcase and Kids Animated Shorts program.



We Bare Bears booth, Cartoon Network at Comic-Con International, San Diego 2015.

Time for a change

InPark checks in with industry leaders who are heading back home

interviews by Martin Palicki

Karen Staley

Back to the States

After 17 years in various roles with IAAPA, Karen Staley recently joined Triotech as the company's VP of Sales USA. Based in Canada, Triotech got their start in the industry creating small-scale motion simulators for FECs. The company has grown exponentially and now provides a wide range of media and simulator attractions, including dark rides and VR experiences.

Why was now the right time for a change?

I very much enjoyed my position in IAAPA. However, after living in Europe for a long time, I needed to return home to the Washington, DC area. I wanted very much to stay in the industry and Triotech was a terrific opportunity to do both.

What are you most proud of in your time at IAAPA?

There are many things. I am so glad to have developed a relationship with the amusement park and attractions community and to work for such wonderfully kind and dedicated industry leaders.

I am truly thankful to IAAPA for allowing me the opportunity to set up the EMEA office, which in turn facilitated my relationship with the industry, provided me with a much deeper appreciation of the industry and nourished a lifelong love of the industry.

Having had a window into global markets in your career, what drew you to Triotech?

Triotech is a highly entrepreneurial and innovative/creative company, with a strong and positive reputation in the industry for not only providing a large variety of



creative guest experience products but also for being a very customer-oriented company. This combination of creativity and service drew me in.

The industry is changing very rapidly, offering guests more diversity in their experiences. Triotech is well positioned to provide a variety of products that are a mix of creative multi-media and traditional rides that can deliver a unique blend of emotional and immersive experiences.

What will you be focusing on and working to achieve at Triotech?

I will be focusing on sales in the USA and Mexico. My goal is to eventually set up a US office to service the many loyal and dedicated US customers of Triotech.

How can people best get in touch with you?

I am working on the East Coast for now...I can be reached by email:k.staley@trio-tech.com or by phone at 240.446.2951. My goal for 2019 is spend as much time in parks and attractions throughout the USA and Mexico. •



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Jeff Lichtenberg

Back to his first design firm

Bruce D. Robinson (BDR) Design Group, now in its 35th year of business, is an international design-consulting firm based in Cincinnati, OH, that has built its success on planning and designing immersive themed leisure and entertainment venues for clients all over the world. Jeff Lichtenberg started his design career at BDR in the late 1980s. He later joined JRA, also in Cincinnati. After 25 years with JRA, he's back with BDR as senior designer/project director.



Tell us about your journey from BDR to JRA, and back to BDR.

There is no short answer to this one. In 1987 I was a young graduate from the Cleveland Institute of Art (CIA) trying to find my place in the design world. While interviewing around town it was suggested I give Bruce Robinson a call. I remember my first meeting with Bruce like it was yesterday. There were amazing renderings on the walls and a sense of creativity in the studio space. While waiting to meet Bruce I flipped through a stack of his project books that made me think: this looks like something I would really like to get into. I caught the bug that day.

After 5 ½ years with BDR and curious about what my future held, I was introduced to Keith James by Jack Rouse [Rouse has since retired and James is now president of JRA]. At the time, Jack and Keith were merging with Wyatt Design to create Rouse Wyatt Associates [Wyatt is once again independent]. The timing and opportunity felt right. I can't begin to list all of the great projects and clients that I had the opportunity to work with at RWA and later JRA. I can honestly say that time flies when you're having fun. It is hard to believe that 25 years went by. I also met the love of my life, Sheila, while working at JRA.

So as to my motivation for returning to BDR, it just felt like time for a change. Bruce and I had remained friends over the years, his office is in Cincinnati and he has built a strong, talented and focused design team. It is a good place for me, a place where I can continue to do what I love.

How has your design perspective shifted or evolved through your career?

While in school at CIA, I learned the fundamentals of good design. Then, I just jumped in and went for it. During my early years at BDR, I grew in many ways. I learned to listen to clients' needs and how to work with various design team members. I learned how to pull

together relevant image references and how to use my drawing abilities to express various ideas derived from other's input. My perspective on design has always been based on the thought that each design task, no matter what, is a challenge to be solved. To find the solution is a matter of learning the variables, envisioning possibilities and working to put the pieces together. The more artfully the pieces are put together, the better the design.

My perspective once focused only on design; but I have learned the importance of quality feasibility studies and a good business plan. When designers understand the data provided within these two parameters up front, they can use their skills and experience to develop solutions that not only look good and provide a satisfying guest experience, but also function effectively to satisfy the owners, investors and operators.

Tell us more about your new role and responsibilities at BDR.

Bruce has said that I am the link that completes the design team. The team is a small but inspired creative group with a high level of client focus, and a long list of successful clients and projects. It is a diversely skilled staff that includes architects, industrial designers, interior designers, set designers, and illustrators that have a wide variety of experience in the entertainment design industry. Rebranded and relocated, the studio is still a place that exudes a sense of fun and creativity. It is a place where I have hit the ground running...again incorporating what I've learned over the years.

Who or what in the design world inspires you?

I love seeing smiling, happy faces on people visiting or engaged in a project that I have been involved with. Seeing

exceptional projects such as The Wizarding World of Harry Potter or Avatar at Animal Kingdom inspire me. I'm constantly looking at the world around me with a critical eye that designer-types tend to have. I look at old and new, often photographing or sketching things that please or inspire me with the thought that some day these things will influence something that I am working on. Then there is the internet - an unbelievable source of information that did not exist when I started in this business. So much to see, so much to learn...

Perhaps my favorite inspiration comes from a pint or three of Guinness at Arnold's Bar in downtown Cincinnati.

What are some favorite projects you've worked on?

Ohhh that's a tough one! Okay here are the first two: (ask me tomorrow and it might be two other projects)

#1 - Worlds of Adventure Theme Park. This was a project that I played a key role on developing the master plan and overall conceptual design while at JRA in conjunction with Les Hudson at Six Flags. The park was to be located in Calabar, Nigeria. Unfortunately this project never came to fruition.

#2 - Jenkinson's Fun House. This was a relatively small project compared to some that I have worked on, but it had a real impact on me. It is a re-envisioned, traditional walk-thru funhouse built in a great location on Jenkinson's Boardwalk in Point Pleasant, NJ. Designed in 1997 and debuting in the spring season of 1998, this project was a hit the minute the doors opened and remains a popular boardwalk icon to this day.

What are some important things for developers/owners to consider or understand before engaging with a design team?

- A) Look at firms with a record of delivering successful projects that meet or exceed their client's expectations.
- B) Know the firm's true abilities to hire a firm that delivers the appropriate level of design required to complete an attractive, operationally functional and financially successful project.
- C) There must be a chemistry of comfort and confidence between owners and developers and the creative design firm. These are relationships that involve money, time and passion. When the collaboration works well, great projects are made and relationships last a long time. •••



The advertisement features a central graphic with the text "ACE For all your AV needs in China". The word "ACE" is in a large, bold, blue font, while "For all your AV needs in China" is in a smaller, blue font. The background is a collage of various AV-related images, including a large circular image of a stage with a large screen displaying a cityscape, a smaller circular image of a stage with a large screen displaying a cityscape, and several other circular images showing different AV setups and stage designs. The overall design is modern and professional, with a focus on high-quality AV solutions.

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"Splash and Bubbles" will begin touring after an initial run at St. Louis' Magic House Photo™ and ©Henson; ©Herschend Studios

On-brand museums

Children's museums do business with IP-based traveling exhibits

by Mira Cohen

Many children's museums have found that they can drive visitation, enhance merchandising opportunities and generate revenue by creating and leasing multi-year traveling exhibits, through collaborations with intellectual property (IP) holders.

Some of the brands in play are already perceived as educationally oriented. At the same time, graphic characters representing toy and entertainment companies are highly popular among children themselves. For children's museums, extending the reach beyond the traditional educational characters and partners can appeal to the actual audience – the children – increase foot traffic, and extend the life of an exhibit.

We talked to museum executives and to someone on the IP side to learn more about the process and the benefits.

When brand and museum mission align

"How People Make Things" is an exhibit developed and leased by the Children's Museum of Pittsburgh. The museum owns the IP for this and other exhibits they've created based on factory tour videos from the classic children's TV show, "Mr. Rogers' Neighborhood," working with Fred Rogers Productions. The videos bring their audiences along to tour factories with Mr. Rogers and learn about the four processes of manufacturing – cutting, molding, deforming and assembling.

We learned from Bill Schlageter, Director of Marketing at the Children's Museum of Pittsburgh, that 25% percent of the museum's earned income comes from traveling exhibits as well as consulting services to other institutions. It's important to them to maintain a reputation for high standards when it comes to branding and design quality.



Sid the Science Kid exhibit at St. Louis' Magic House
Photo courtesy Magic House



The Lion Guard exhibit at Miami Children's Museum
Photo courtesy Miami Children's Museum

The identity and legacy of Fred Rogers as a son of Pittsburgh and his impact on the pedagogy and design of the Children's Museum in Pittsburgh are uniquely intertwined. Museum marketing materials state, "Fred Rogers is a beloved icon for Pittsburgh and has been a bedrock for Children's Museum of Pittsburgh since its inception – as an advisor, a mentor and a friend. We believe it's important to continue to memorialize Fred's wonderful and meaningful work, as well as help today's children and families better relate to his many invaluable messages."

Pittsburgh follows the typical practice of opening the exhibit first at the home institution, after which it goes on the road, returning for periodic maintenance. Pittsburgh's model has been successful, according to what we learned from Schlageter. The exhibits have attracted thousands of visitors and traveled to dozens of locations, and are essentially evergreen, with an average lifespan of 10-20 years. And the two organizations' mission alignment has led to them working together in other ways. Fred Rogers Productions has hired the museum team to design exhibits such as a kiosk at the Pittsburgh airport.

Bringing the ocean to St. Louis

The Magic House is a 65,000 square foot world of wonder located in St. Louis, Missouri. Its President, Beth Fitzgerald, has overseen the growth and development of the space over the past 39 years. Ms. Fitzgerald and I discussed the museum's relationship with the Jim Henson Company and Herschend Entertainment that has led to the creation of successful traveling exhibits.

Beth's first involvement with a Jim Henson Company property involved "Sid the Science Kid." Beth's goal was to engage young children in the excitement around science and she noticed that kids love Sid. In an effort to utilize that enthusiasm to bring educational value to children's museum experiences, Beth reached out to her local PBS KIDS TV affiliate to begin the conversation that culminated in a co-branded exhibit, "Sid the Science Kid: The Super-Duper Exhibit!"

Flash – no, splash - forward, and "Splash and Bubbles: Dive In, Lend a Fin!" created by The Magic House in collaboration with Herschend Enterprises and The Jim Henson Company will begin touring in summer 2019, after having first run at Magic House. Because of the relationship that had developed with PBS KIDS, Beth and her team were invited out to see "Splash and Bubbles" in production. They were able to meet the actors, watch the advanced puppetry, and experience the technology behind the production. It was love at first sight. Beth recognized an opportunity to share ocean exploration with the children of the Midwest (who don't have oceans nearby).

Marketing materials state, "The exhibit, like the show, helps build both STEM and social-emotional skills as children learn how to protect the ocean and its ecosystems." Because Herschend Enterprises has a relationship with The Jim Henson Company and owns the rights to "Splash and Bubbles," all approvals for the exhibit needed to go through Herschend. The licensing process took about a year and a half. Once this was done, concept ideas needed to be approved by both Herschend and The Jim Henson Company.

Traveling exhibits bring in five percent of the Magic House's revenue. Was it worth the work involved in developing rights and licensing? To Beth Fitzgerald, the answer is clearly yes. "When children are already connected to a character, hands-on experiences can get them where they already are and take them to a different place," she said.

Creating Excitement

The Miami Children's Museum debuted what it bills as the first-ever museum exhibit based on Disney Junior's "The

Lion Guard” in January of 2018. The exhibit is booked through 2022 to appear in children’s museums across the United States. “The Lion Guard” stories are designed to communicate positive lessons about teamwork, community and diversity. The Education and Science experts at Disney’s Animal Kingdom theme park serve as consultants, inspiring original stories based on their first-hand experiences, and advising on the characteristics, behaviors and habitats of various African animal species.

Driving attendance and positive engagement were the big motivators for Miami to partner with Disney Jr; as Associate Director of Marketing Alexandra Akshar said, “getting people through our doors and watching children enjoy exhibits.” Additionally, the team at the Miami Children’s Museum is expecting the exhibit to communicate positive lessons about teamwork, community and diversity. The development of the partnership for the initial co-branded exhibit Lion Guard involved a 2-3 year process of securing the rights and fabricating the exhibit.

Trust and a good match

What do things look like from the side of the IP owner or licensor? We spoke to Anthony Esparza, Founder and President of Esparza HQ. Esparza is a specialist in IP-driven experiences in location-based worlds. He was with Herschend Family Entertainment from 2003 to 2015, and was Senior Vice President, Guest Experiences when Herschend established its licensing agreement with the Jim Henson Company to help expand Henson brands into the user experience market. Today, Esparza provides consulting services to brand and IP holders who are looking for opportunities in what’s called the LBE space (location based entertainment) which includes cultural experiences and visitor attractions.

“Making an IP deal is like asking to borrow someone’s baby,” said Esparza. “It’s not just about money. The parties must establish a strong sense of trust. An IP holder needs to feel confident that their brand will be cared for and all uses will enhance, not detract, from the value and mission of their brand. Crafting a workable deal that expands trust among parties is part of the complexity of a healthy licensing agreement.”

Esparza explains that museums must “cast the right IP for the right need. This work is nuanced. Just because a character is well known, does not mean they are well suited for a particular mission or business model.” IP licensing deals are made in one of two ways, explained Esparza. Either the museum/client will work directly with the IP holder, or with their representative licensed to distribute a particular experience or product within

an industry segment. Museums are most likely to work directly with the IP holder. Larger museums, such as the Smithsonian or American Museum of Natural History, will at times lend their name as well to bring credibility and prestige to a touring experience, adding to its market value.

The licensing arrangements made directly with the IP holder can potentially take years with an average length of time being about a year and a half. These deals can be expensive but according to the specialists we spoke to, they are worth it. The museum expects to amortize costs of an exhibit over the course of its touring life; and for both the museum and the IP holder there are additional tangible and intangible benefits.

The modern trend toward non-linear storytelling in immersive environments also lends itself to these branded experiences. Visitors want to be the heroes of their own stories; both visitors and stakeholders are looking for a sense of purpose. Exhibitors that deliver inspiring experiences can engage visitors and motivate them in ways that serve mission. The sense of purpose helps build community and repeat visitation and engagement with the museum as well as the IP or brand.

Working Together

As Esparza expresses it, “Fans want to meet and interact with the IP friends they know.” Visitors, he says, seek a sense of “fun, familiarity, and meaning.” When they meet the IP friends they know at the museum, they are likely to respond in ways that help the museum succeed and build loyalty - to the museum and to the brand or IP within the exhibit.

When children’s museums, seen as educational institutions, enter into licensing deals with popular entertainment brands, they often do so to increase foot traffic and create a sense of excitement among their repeat visitors. Museums can help entertainment brands create or intensify a public perception of educational heft. Working together, entertainment entities and museums can create highly engaging, meaningful and lasting experiences for visitors and fans. • • •



Mira Cohen (mira.cohen@nara.gov) is Director of Education at the Ronald Reagan Presidential Library & Museum and Project Manager of the Situation Room Experience.

HollandWorld Redux

Attendees to the 2018 EAS event in Amsterdam were treated to new details about the LBE project coming to The Netherlands

By Martin Palicki

Located next to Schiphol Airport, Amsterdam's international gateway, HollandWorld has ambitious goals. Originally conceived in 2014 as a tourist destination anchored by a fashion outlet, the project lost steam and went through a redesign and planning process from 2015-2017.

The revived project is now more of an integrated resort, with hotels as a major element and financial driver. With over 4,000 hotel rooms planned, the vision for HollandWorld combines hospitality, F&B, leisure and retail into one destination.

Influencing the decision to redesign the property was the growing body of Chinese tourists and the expectation of hosting many of them in The Netherlands [see "Chinese tourists: a primary and growing market for visitor attractions" by Rona Gindin, InPark issue 75, <http://www.inparkmagazine.com/chinese-tourists-a-primary-market/>]. Outbound Chinese travelers are expected to surpass 150 million in 2018 and the total could grow to as much as 260 million by 2030, observed Hans van Driem, managing partner at International Destination Strategies, one of HollandWorld's key backers during a special press conference at EAS 2018.

According to van Driem, there are already sufficient theme parks in the area (Efteling and Toverland are both Dutch regional theme park powerhouses), so the development needs to differentiate itself. Instead of relying on traditional IP or branded experiences, the park will promote and entertain guests with concepts revolving around typical elements and industries of The Netherlands. Planned areas include the following:

- **Holland FlowerWorld:** Surrounded by tulips, guests will experience the critical flower trade that has defined modern Holland.
- **Holland HistoryWorld:** Guests will enjoy an interactive museum that celebrates the likes of Rembrandt and Van Gogh.
- **Holland WaterWorld:** The Dutch are proud of their history of living with the forces of nature, especially water. Experiences will highlight the knowledge the Dutch have gained and include a year-round indoor waterpark.



- **Holland WinterWorld:** Designed as a full indoor experience, guests can try ice skating and other winter activities year-round.
- **Holland Show&Fun City:** With a focus on music and Dutch brewing history, this area is expected to be the entertainment hub of the development.

HollandWorld is not being designed to replace tourist visits to the central Amsterdam hotspots. Instead, it is intended as a "day two" destination, aiming to capture visitors after they have already seen the more traditional sights.

Organizers expect the development and design phase to continue through 2020. Construction is expected to span 2021-2023 with a 2023 or 2024 opening anticipated. The team is currently seeking co-developers, investors, builders, operators, suppliers and consultants. • • •

Behind the HollandWorld Brand

Unlimited Leisure Group (www.unlimitedleisure.com) co-owns and operates several companies with core activities in the leisure and entertainment marketplace. Kees Albers heads up Unlimited Leisure, which is the co-owner of the IP for HollandWorld at the location Park 21. Outside of HollandWorld, Unlimited Leisure develops a variety of mixed-use experiences around the world. Their specialty areas include snow and ice leisure destinations, ticketing and queuing technologies and attraction photograph and video services. According to Albers, the HollandWorld development is designed to be environmentally responsible and be a low-emissions venue.

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